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THE JOURNAL

OF THE

Missouri State Medical Association

THE OFFICIAL ORGAN OF THE STATE ASSOCIATION AND COMPONENT SOCIETIES

ISSUED MONTHLY UNDER DIRECTION OF THE PUBLICATION COMMITTEE

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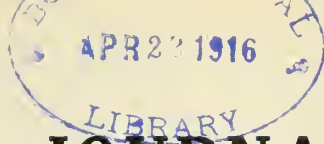
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INDEX TO VOLUME XII

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JANUARY, 1915

Number 1

E. J. GOODWIN, M.D.,
EDITOR

PUBLICATION { W. H. BREUER, M.D., Chairman
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ORIGINAL ARTICLES

SURGERY OF THE HEART *

WALTER C. G. KIRCHNER, A.B., M.D., F.A.C.S.
ST. LOUIS

In presenting the subject of surgery of the heart, the writer wishes again to emphasize the fact that the heart, as an organ, is amenable to surgical procedure, and also, by means of lantern slides, to illustrate certain anatomic relations and steps in the surgical technic of the repair of wounds to the heart. Injuries to the heart are of such a serious nature that the surgeon should be prepared to meet these emergencies by having in mind a definite plan or operative procedure. With a better knowledge of the subject we may hope to decrease the mortality rate, and to save lives which otherwise would have been lost.

Until within recent years even surgeons of great reputation regarded any attempt at surgical repair of the heart as futile. However, experiments on animals showed the feasibility of surgical repair of heart wounds, and in 1896 Farina, of Rome, performed the first surgical operation on the human heart. In 1901 H. L. Nietert at the St. Louis City Hospital and Tully Vaughan of Washington, D. C., were the first in this country to successfully suture the heart. During my term of service at the City Hospital, I had occasion to observe 5 cases of heart suture, 3 of the cases making successful recoveries. It was my opportunity to operate on 2 of the cases; 1 case died a few hours after the operation; the other made a successful recovery. A brief history of these cases may prove of interest.

CASE 1.—Male, white, 37 years of age; entered the hospital with a history of having been stabbed with a knife while fighting. He was in great shock; conscious, but drowsy and restless. There was an

anxious expression on his face and he was suffering and cried out with pain. The skin and mucous membranes were pale, the body was cold and in profuse perspiration. He was thirsty, the pupils were dilated, but the nervous reflexes were normal. The urine contained albumin and casts. The pulse was irregular, soft and small, the rate 86 per minute; respirations, 28; temperature, 99.8 F.

On the left side of the chest, in the fifth interspace and one inch external to the mammary line, there was a penetrating wound of the chest, which wound when explored with the finger, was found to take a direction toward the heart and apparently to involve this organ. In the sixth costal interspace and one and one-half inches external to the wound just described, there was a second penetrating stab wound of the chest. These wounds were about half an inch in length and the surrounding tissue was emphysematous. Blood escaped in large quantities from the pleural cavity through these wounds, and on the lower and posterior portion of the chest on the left side, the percussion note was flat. The diagnosis of stab-wound of the heart was evident.

Operation.—The patient was prepared for operation and was wrapped in hot blankets. A quarter of a grain of morphin was given and ether administered to the stage of unconsciousness and then discontinued.

An osteoplastic flap, including the fourth and fifth ribs, with the hinge to the right and near the sternal margin, was formed. This gave access to the cardiac region, but, inasmuch as the hemorrhage was profuse and ample room for quick work was needed, the sixth rib was also severed and retracted. The pleural cavity was almost completely filled with blood and blood clots, and the heart was beating but moderately fast.

There were two incised wounds in the pericardium from which blood flowed very freely. The infiltration of blood into the pericardial and fatty tissue altered considerably the normal appearance of the cardiac area. The pericardial sac was opened and contained mostly liquid blood. The heart was lifted from the sac and near the apex of the left ventricle there was an incised wound, three-fourths of an inch long, which bled freely. When the heart was raised, the left ventricle emptied itself through this opening, and the heart stopped beating. A silk suture was quickly placed to close the opening. The heart was compressed and massaged and the pulsations of the organ were reestablished, but the heart beats were now accelerated and were from 140 to 160 per minute. This made suture of the wound very difficult. Interrupted silk sutures were used, care being taken not to include the endocardium. The heart was supported in the left hand. It was necessary to use eight sutures to close the wound effectually. The heart was inspected and no other source of hemor-

* Read in General Session of the Missouri State Medical Association, at the Fifty-Seventh Annual Meeting held at Joplin, May 12-14, 1914.

rhage found. The pericardium was cleansed, the heart was replaced and the pericardial incision was closed with catgut, small drain having been placed in the lower angle of the wound. Dependent drainage of the pleural cavity was also established, and the wound in the chest was closed with catgut and silk-worm gut sutures.

While the operation was in progress the patient had received hypodermoclysis of saline solution and this seemed not only to increase the volume of the pulse, but also to improve the heart's action. The lungs were not completely collapsed, and contracted and expanded with respirations. While suture of the heart was in progress, the patient who had practically received no anesthetic during the operation, stated that he was thirsty, and called for a glass of water or a can of beer. Before closure of the pericardium the patient made efforts at coughing and the lung and heart were forcibly pushed into the wound in the chest. When the patient was put to bed his pulse was 118, of fair volume, and the respirations were 30 per minute.

The patient died four hours after the operation with symptoms of shock and hemorrhage. At autopsy there was no blood in the pericardium or in the pleural cavity. When carefully examined, a second small wound in the heart was found in the fatty tissue near the septum and opened into the left ventricle. At the time of operation there was no bleeding at the site of this wound and the bleeding was perhaps controlled by the muscular contraction. The cause of death was attributed to shock.

CASE 2.—Male, white, 24 years of age; had been stabbed in the chest with a knife about half an hour before entering the hospital. He was conscious, restless, noisy and unruly. The skin was pale, the body was cold and in cold perspiration. The pulse was very feeble and irregular and the rate was 96 per minute. At times the beats were strong and then again almost imperceptible, making it evident that the heart was laboring under difficulty.

Examination of the chest showed a stab wound three-fourths of an inch long, parallel with the fifth intercostal space and two and one-fourth inches below the nipple. The hemorrhage was profuse and his clothing was saturated with blood. Examination with the finger showed that the pericardium and heart were injured. When the finger was removed there was a gush of blood from the pericardium and the pulse improved markedly.

Operation.—General ether anesthesia preceded by morphin and atropin was administered. The finger as a guide was introduced into the stab wound, and a quadrangular osteoplastic flap including the fourth and fifth ribs, with hinge near the sternal margin was made. The opening was sufficiently large for cardiac manipulation and the pleura was but slightly injured.

The incision in the pericardium was two inches long and was enlarged upward and downward. The heart was lifted from the pericardium and examined and a wound one and three-fourths inches in length was found extending obliquely across the left ventricle, the lower end being about one inch from the apex. The escape of blood from the ventricle was controlled by placing the finger in the wound. By placing small tenaculum forceps at the lower end of the wound, the edges were coapted and the sutures could be more readily placed. Twelve sutures were required to completely control the bleeding. Fine chroma-sized catgut was the suture material used in suturing the heart and pericardium. A small rubber tissue drain was placed in the pericardium, but drainage of the pleural cavity was not instituted. The osteoplastic flap was put in position, the bones

approximated, and the wound closed with catgut and silk-worm gut sutures. The operation was performed in forty-five minutes. The pulse was 132, respirations 22, and temperature 99.8 F.

The patient developed a broncho-pneumonia in the left lung, but this subsided in a few days and he was soon convalescent. He was practically well after the second week, but was kept in bed a week longer. His record was normal. The heart wounds were normal, and the sphygmogram gave normal tracings. The skiagraph showed perfect approximation of the severed ribs. The patient has been able to resume his usual vocation, having made a complete recovery.

All wounds of the heart should be considered as serious, and death is primarily due to shock and hemorrhage. When the peritoneal cavity is involved, and there is injury to abdominal viscera, the prognosis is extremely grave. In a list of 160 tabulated cases, Peck records a total of 102 deaths and 58 recoveries, a mortality of 63.7 per cent. E. H. Pool in 1912 collected 77 additional cases, and with the addition of cases more recently reported the total number of cases of heart surgery must number close to 250.

A sufficient number of cases of operations on the heart have been reported so that from the experience gained, we may speak of a method of treatment. But in order that the treatment may be successfully instituted, it is well to bear in mind the anatomic and topographic relations, the histology and physiology of the heart, and the pathologic and reparative processes which may take place.

It is important to bear in mind the size, position and relations of the heart itself. When the pericardium is opened, it is mainly the right ventricle and the right auricle which presents itself. This portion of the heart is protected by the sternum. Only a small portion of the left ventricle is seen anteriorly. The inter-ventricular and the auriculoventricular furrows are usually well marked and lodge the branches of the coronary arteries.

The right auricle is thin, and its main communications are the superior and inferior venae cavae. The right ventricle is triangular in form and its wall is thicker at the base than at the apex. The important structures on the inner side of the wall are the columnae carneae, the papillary muscles, the moderator band, the tricuspid valve and the chordae tendineae.

The left auricle is thicker than the right. Two of the pulmonary veins open on its left side and two on the right. The left ventricle is longer than the right and its walls are about three times as thick as the right ventricle. The walls are thicker at the base than near the apex. There are two papillary muscles which support the bicuspid or mitral valve.

On transverse section of the heart the relation of the ventricles can be well understood and the difference in the thickness between the muscular walls of the right and left ventricles

is apparent. It is important to bear this observation in mind when suturing the heart.

If a longitudinal section of the heart is made, dividing the right and left heart, the triangular shape of the ventricles is made apparent and the left ventricle is found to be thinner near the apex at which site rupture of the heart most frequently occurs. The interventricular septum is thicker near the apex than at the base; near the aorta opening it is membranous in character.

Of great importance from the surgical point of view is the heart-beat and the manner in which it may be inhibited or stimulated. According to Howell, the heart-beat begins as the simultaneous contraction of the two auricles. The heart-beat is initiated by a contraction of the mouths of the venae cavae. The auricular contraction is immediately followed by the simultaneous contraction of the two ventricles. During the pause which follows, the heart is again filled with blood. We then speak of the auricular or ventricular contractions as the systole, and the relaxation as the diastole. The relation of the systole and diastole may be graphically represented.

In regard to the musculature of the auricles and ventricles, Howell (*Text-Book of Physiology*) has this to say: "In the auricles there is a superficial layer of fibers which runs transversely and encircles both auricles. The simultaneous contraction of the two chambers would seem to be insured by this arrangement alone. In addition, each auricle possesses a more or less independent system of fibers, whose course is at right angles to that of the preceding layer. These fibers may be considered as loops arising and ending in the auriculo-ventricular ring. The course of the fibers in the ventricles has been difficult to make out. It is clear from even a casual examination that the superficial fibers are common to both ventricles. They may be considered as arising from the auriculoventricular ring in one ventricle to pass in a spiral course to the papillary muscles and through their tendons to the auriculoventricular ring on the other ventricle. Those that begin on the outer surface in one ventricle, end on the inner surface in the other.

"The contractions of these bands of fibers would tend not only to diminish the cavities of the ventricles from side to side, but also to bring the apex and base together and to rotate the apex from left to right. Beneath these superficial fibers lie thicker bands, the fibers of which have a more transverse course. According to MacCallum, the fibers form three flat bands which pass in the form of a scroll from one ventricle through the septum into the other. The band that lies most superficially in the left ventricle at its origin, lies deepest in the right ventricle. The effect of the contraction of

these bands should be to compress the cavities of the ventricles in the lateral diameters. A matter of very great physiologic interest in connection with the invariable sequence of the heart beat has been the question of the existence of a direct muscular connection between the auricles and ventricles. The chief connection is described as a bundle of fibers, auriculo-ventricular bundle, which springs from the right side of the interauricular septum, runs obliquely through the connective tissue and ends in the muscle of the ventricular septum under the origin of the aorta."

The physiologic studies and experiments have led to important recommendations in regard to resuscitation of the heart, and Erlanger (*Sinus Stimulation as a Factor in the Resuscitation of the Heart, Jour. Exper. Med.*, Vol. xvi, No. 4, 1912) has shown that the heart may be resuscitated by tetanic stimulation of the sinus region of the auricles and that this is of material assistance to massage when applied to the heart. The importance of this procedure in cardiac surgery must be apparent, and massage of the heart was used in the first case reported.

The principle injuries to which the heart has been subjected are those which result in puncture wounds, stab or incised wounds, gunshot wounds, or lacerated and contused wounds. Small wounds of the heart may prove fatal, but many heal without complications. The healing of heart wounds takes place by cicatrization and the better the approximation, the stronger the wound. Investigators have demonstrated that when the wound is properly approximated, a true myocardial regeneration takes place.

The pericardium plays an important part in wounds of the heart and when distended with blood and clot, hemopericardium exists. As the pressure in the pericardium increases, heart tamponade results. The tension exerts itself first on the auricles and the heart's action becomes irregular and labored or may cease entirely. The pulse is thus an index of this condition.

The main symptoms of injuries to the heart are those of hemorrhage and shock. Inasmuch as they were exemplified by the two cases which were previously reported, it may be unnecessary here to reiterate them.

The primary treatment of wounds of the heart should be directed to the control of hemorrhage and shock. The control of hemorrhage requires operative procedure and the anesthetic demands then careful consideration. When a general anesthetic is used, ether is preferred and experience has shown that deep narcosis is undesirable. In certain instances local anesthesia can readily be employed. Since the danger of pneumothorax is great, anesthesia by the method of intratracheal insufflation is the

safest and most satisfactory when it can be employed.

In the surgical treatment, we should always bear in mind the anatomic relations, the ribs, the intercostal vessels and nerves, the internal mammary artery, the position and extent of the pleura and lungs, and the area of the uncovered or free pericardium. It is desirable to prevent pneumothorax, and in operating care must be taken not to injure the pleura. Knowing the relation of the pleura to the pericardium, exploratory pericardiotomy may readily and safely be performed. The right and left pleura meet behind the sternum and cover the upper two-thirds of the pericardium.

The heart itself lies mostly behind the third, fourth and fifth ribs, and the location of the incision on the chest for exposure of the heart must be determined by the position of the wound in the heart. In most instances, the heart can be best exposed by operation on the left side of the chest. Occasionally it is necessary to cut through the sternum to reach wounds at the base of the heart.

A wound in the heart may be treated through a wide intercostal space, but usually this is not possible. The flaps that have been mostly used open to the right or to the left and are either entirely on the left side or extend across the sternum. In constructing the flaps, the chest wall and the pleura should be damaged as little as possible, and this may often be best accomplished with the finger in the wound as a guide. When it is evident that the left pleural cavity has been opened up, Spangaro's intercostal incision, with extension upward or downward along the margin of the sternum, as seems necessary, is the one of choice.

This incision is made in the fourth or fifth left intercostal space. By retraction of the ribs a view of the pericardium and pleural cavity may be had. If further space is desired, after double ligation of the mammary artery, the incision may be extended upward or downward, and the cartilages divided with costotomy near their sternal attachments. The pericardium may be easily incised, and wounds of the right and left ventricles can readily be repaired. If still more space is desired for suture of wounds of the auricles or vessels at the base of the heart, the sternum may be divided best with costotomy, after separation of the underlying tissues, and forcibly turned to the right, making a hinge along the right costal attachment. Care must be taken not to enter the right pleural cavity, or else a fatal double pneumothorax may result. If a mediastinal wound is present, and neither pleural cavity has been invaded, a flap involving the sternum with hinge along the right costal attachment is preferred. This flap is of service in operations at the base of the heart.

The hemorrhage from the wound in the heart is temporarily best controlled by placing the finger in the wound. In incised wounds if tenaculum forceps or traction suture be placed at one end of the wound and the heart be permitted to pulsate while thus suspended, the traction and muscular contractions tend to close the wound and to limit the hemorrhage. It has been found that by this suspension, it is easier to suture the heart wounds than if the heart were held in the hand. Interrupted silk or catgut sutures may be used. The sutures should be deeply placed but not to include the endocardium.

Quite recently Alexis Carrel, in experiments on animals, has succeeded in performing operations on the valves of the heart, and he was able to accomplish this by clamping or compressing the large vessels at the base of the heart. However, operations of this type have not yet been applied to the human heart.

The chief postoperative complications result from infections of the pericardium or pleura, and therefore the matter of drainage is most important and requires great judgment on the part of the operator. Unless infection seems evident, it is better not to establish primary drainage of the pleural cavity. However, a small rubber drain may be allowed to reach through the pericardium. In closing the wound, catgut will be found best for the pericardium and muscular structures. The skin wound should not be closed too tightly.

The chief postoperative complications are those associated with shock and hemorrhage, pneumothorax, pneumonia and infection of the pericardium and pleura. Secondary hemorrhage occasionally takes place and may prove fatal. Embolism also occurs, but not as frequently as may be supposed.

Regarding the treatment of wounds of the heart, we may conclude as follows:

Wounds of the heart, especially when accompanied by hemorrhage, should be sutured. When the hemorrhage is confined in the pericardium (hemopericardium) and the pulse is irregular and slow, prompt drainage of the pericardial sac is demanded. An early diagnosis is important, and in case of doubt exploratory pericardiotomy should be performed. The choice of the anesthetic and the manner of administration is important, and in no case should the anesthesia be profound. If the heart, when exposed, stops beating, gentle massage of the organ should be practiced. Unless the opportunity for infection were great, it is better not to establish primary drainage of the pleural cavity. The approach to the heart should be well planned, so that the operation may be performed as quickly as possible.

WHAT KNOWLEDGE SHALL BE IMPARTED TO THE LAITY CONCERNING CANCER *

F. J. LUTZ, M.D.
ST. LOUIS, MO.

In the present state of our knowledge concerning cancer the primary object to be attained by instructing the public must be to secure treatment for sufferers from this insidious disease earlier than is now generally given. To do this there should be presented to the layman such information as will induce him to confer with his physician on the appearance of certain well defined symptoms. How far this instruction should extend is by no means easily defined; on the one hand detailed descriptions of pathologic changes in tissues and organs or grouping of clinical phenomena ordinarily serve no useful purpose; on the other hand, we cannot dispel the fears and apprehensions of a patient by lightly passing over a condition which may have reached a stage when it is forcing its presence on his or her notice through sight and smell.

There are many reasons why a physician is not consulted earlier even by those whose general intelligence would suggest the rational course: First and foremost, the general ignorance of the well established clinical fact that cancer is at first a local disease, limited to the part which it attacks; that it grows locally and that it spreads from the place of its origin to the system. In the next place, sufficient emphatic expression has not been given to the extensive surgical experience, which has demonstrated that by early, thorough removal of the local growth, the disease can be permanently eradicated. In the largest number of cases the cancer is so situated as to be surgically removable. In every case a time exists during which the disease is curable if the victim will avail himself of this time. In the third place, in most cases of cancer the sufferer on account of the absence of pain, does not consider himself seriously ill.

Nor is fear of an operation the deterrent reason for not obtaining medical advice early—it is ignorance of professional experience and results much more often. People dread surgical operations less each year; the painlessness with which they are performed, their comparative safety are becoming common knowledge. Ignorance of the gravity of the disease far outweighs the dread of the operation.

It is no longer considered improper to discuss matters in the public press or from the rostrum, which formerly offended the customary notions of propriety; people have become accustomed to living in an atmosphere almost

medical and if a shock to their sensibilities does occur, it soon wears off as do all shocks which always accompany deviation from the usual path. It cannot be urged successfully that information on this subject is calculated to alarm the public. This alarm will last no longer than did the alarm which followed the enlightenment of the public concerning tuberculosis.

While our knowledge concerning the cause of cancer is far from final, familiarity with many phases of its appearance has robbed it of the dread with which it was formerly considered.

When the public is informed of the fact that the disease occurs in plants, in fishes, in fowls, and in cattle, as well as in man, it will soon cease to be looked on as a mysterious affliction. An exhaustive consideration however of the symptoms of cancer is calculated to confuse the public.

Our statement to the public concerning cancer should be most emphatic on the following points: (1) Cancer is a curable disease, when removed early. It must therefore be recognized early. When not removed at a time when it is still a local disease it proves inevitably fatal. To secure early recognition the cooperation of the laity and the physician is absolutely necessary. This cooperation is feasible only when the layman is informed concerning the usual manifestations of the disease. By early recognition and early removal many lives are saved, many are prolonged and much invalidism is prevented.

(2) Our present knowledge enables us to speak only of a surgical operation as a means for removal and therefore of cure, when the cancer is more than a superficial or skin cancer. In the latter class of cases the Roentgen ray has a large field of usefulness. Drugs are useless.

(3) The great publicity which has of late been given to radium in the treatment of cancer and the wonderful cures which were reported as having been effected by it, have raised to a high point the hopes of the afflicted and have stimulated the enthusiasm of the profession. Up to the present it has not however in any way supplanted surgery. When we shall know more about it, it will, I hope, become a substitute for instead of an aid to surgery. The properties of radium are comparatively unknown and therefore treatment with it is and will be for some time to come, experimental and no definite conclusions will be ready for announcement for several years to come. Hitherto it has been used most often in cases in which operative intervention was either impossible or inadvisable. Radium seems to have the power to destroy cancer cells or to inhibit or prevent their growth. The expensiveness of

* Read in the General Session of the Missouri State Medical Association, at the Fifty-Seventh Annual Meeting, held at Joplin, May 12-14, 1914.

the element places it beyond the reach of the ordinary sufferer.

(4) Any swelling in the breast of a woman after forty years of age should immediately be called to the attention of the medical man for a large percentage of them are cancers.

(5) The commonest manifestation of cancer of internal organs is hemorrhage; any bleeding after the menopause and any irregular hemorrhage during the grand climacteric is suggestive of uterine cancer.

(6) Pain is as a rule a late symptom of cancer and when associated with bleeding means that you are dealing with an inoperable and therefore fatal cancer.

(7) Bleeding from the bowel after 45 years of age is not as is so often supposed due to bleeding piles, but is shown upon careful examination to be due very often to cancer.

(8) After 45 every swelling or sore which occurs on the tongue or inside of the mouth should be brought to the attention of a physician; a microscopic examination and the Wassermann test should be made without delay in order to determine which treatment to institute at once.

(9) Broken teeth and badly fitting artificial teeth, when they irritate the tongue or buccal mucous membrane should be immediately removed.

(10) Warts and moles, in fact all new growths on the skin, and ulcers and fissures on the mucous membranes are constantly exposed to irritation and show a strong tendency to become cancers when neglected.

(11) Cancer is neither infectious nor contagious, but a patient suffering from cancer should be treated as though the disease were both infectious and contagious and the most scrupulous cleanliness should be observed on the one hand and on the other, the odor from the decomposing cancer and the systemic infection should be counteracted by suitable local antiseptics and nourishing diet and such remedies as experience has placed at the disposal of the physician.

(12) Cancer is not hereditary. It should, however, be considered a social crime for parents, either one of whom has had or has a cancer, to procreate offspring.

DISCUSSION

DR. WALTER B. DORSETT, St. Louis: I simply want to emphasize one point that he made. It is that in early cancer the absence of pain as a symptom of the disease and the belief of many people that because of the absence of pain there is no good reason for calling the condition cancer. This has led to the neglect of many cases. In Tait's first book, in the series that came out many years ago (many will remember that most notable volume entitled "Rest and Pain") he made this statement: "That of all the diseases that flesh is heir to, cancer of the uterus is the most painful," neglecting to qualify his statement by say-

ing that in the later stages it is painful. So I am inclined to believe that many physicians wait for the symptom of pain, and, as Dr. Lutz has well said, when that symptom has arisen or become present the majority of cases are too far gone for us to do anything in the way of operative procedure. It is one of the saddest things in the world, when a woman comes across the state, or from some adjoining state, to a surgeon to have the uterus removed, to have to tell her that it is absolutely useless to do anything towards saving her life and that all we can do is to scrape away a lot of dead material so that the patient does not die of sepsis and simply postpone the evil day. I want to say, however, that many of these cases so-called inoperable, are not truly inoperable, and that now and then a case will occur in the practice of surgery where at first blush the case would seem to be hopeless yet when an effort is made to remove the cancerous tissue you will find that you are able to remove a good deal more of it than you at first thought, and I am prompted to illustrate this with a case which came to me twelve years ago. A certain physician came to see me and began to reminisce somewhat. He said, "Do you remember Mrs. So-and-So that I brought up here to you?" I said "Yes, and I want to know something about the woman who had a fibroid." And then he said, "Why don't you ask me about Mrs. —, the lady who had the cancer of the uterus. You remember you simply took hold of the mass and the whole uterus dropped out. You cauterized the wound, you recollect, and the case did very well." "Yes," I said, "I did not care to mention that because, of course I suppose she is in heaven by this time." He said, "Not at all. She rode horseback this morning five miles to see this patient off on the train." So that many of these cases that are at first considered inoperable can often be helped.

In regard to radium, I know nothing, but I am inclined to believe that it has been and is still rather an element in the hands of some people who have been trying to make a great deal of it for the purpose of self-laudation and not for the purpose of any scientific research or the application of a remedy for the treatment of cancer.

DR. W. F. MORROW, Kansas City: This question is of paramount importance, to the medical profession secondly and to the public firstly. The points that I would emphasize are that the first thing to do is to get hold of these cases, and the next is that the medical profession of the state of Missouri should enlighten these people as to the importance of doing that. There is where we fall down. When we go on the platform here and select some man to get up and deliver a speech, an oration on medicine or on surgery, we are simply falling down on our duty to the public and to the state. That does not amount to anything. When we have an hour or an evening to spend, let us put such men, who have given this question special consideration, before a vast audience like we had in this house last night and tell these people the importance of getting at this disease early. I worked for four and one-half years as secretary of the board of health of this state and I know something of what I am talking about. The people are simply hungry for enlightenment on these questions, and we owe it to the public and the state of Missouri as pioneer physicians to go to work and instill or inject something into this medical profession for the public good. We leave our homes and come here for a purpose, and it should be for the very best purpose so that we shall be able to work on this question of enlightening the people for a time to the end that we may relieve them of this deadly and destructive disease. I know that all of you men who do operative surgery do say that the thing is to get hold of these cases early and oper-

ate then. This is the whole question, because the disease in the beginning is truly a local one, as Dr. Lutz says. The people do not know it, and they are laboring under a great dread of surgical operations, they are afraid of anesthetics—as we had discussed here yesterday, a lot of these cases, as they said, can be done with novocain and there is no trouble from the anesthesia—but the thing is simply to get these cases in the beginning of the trouble. So, gentlemen, what we should do is not to have one or two men to speak and discuss this matter over the state, but to have a representative from every organized society in the state and make it the duty of these societies to send a man from each county to enlighten the people of their respective counties.

DR. W. G. MOORE, St. Louis: I am not a surgeon, but this question grows in importance every hour. Dr. Morrow's idea strikes me as a correct one, that general audiences should be instructed from proper sources. Now instead of having a teacher here and there, why not every physician make it his duty to observe the ideas brought out in Dr. Lutz's paper and notify every patient; therein you would help those who have cancer. Every doctor should constitute himself a teacher of the doctrines set forth in this paper. Dr. Rodman, now of Philadelphia, came to St. Louis to talk to you doctors on this subject a week or ten days ago and in a private conversation with him, I said "Doctor, what per cent. of cases have you actually cured by operative procedures," admitting that there was no other procedure known, x-ray or anything else that was of value. He said, "I have been following a series of a hundred cases, private cases whom I could keep track of sufficiently long to make me able to come to definite conclusions, and I can state that I cure 60 per cent. of the early cases that come to me. The others are fatal." Now, if 60 per cent. can be cured as early as he got them, cannot the other 40 per cent. be cured by getting them earlier still? If that be so, then I say that the medical profession should constitute itself a committee of the whole and each one of us become a director. In the case of early manifestation of cancer, what Dr. Dorsett says about the pain element being watched for, I am sure is one of the cardinal points of the whole situation. Most of us have waited; I have waited until recently for the patient to complain of pain because, as Dr. Tait says, through Dr. Dorsett this morning, that element of pain is the greatest thing to be considered in the diagnosis of cancer. I believe now that when the pain commences, as has been said, the time is come when it is too late to be of service surgically.

I think this paper is of such importance that each of us should be impressed with the idea that he must take special notice of the cases who come to him, who even come without the complaint of a tumor, come for other things and a tumor is found on examination, that the patient having this tumor should have attention strongly called to this. I think it should be removed and under local anesthesia, for there is less danger than under general anesthesia.

DR. W. H. LANYON, Joplin: I want to ask Dr. Lutz to state why he puts the age of 40 for removal of tumors of the breast, because I have been recommending any tumor of the breast in a person over 30 to be removed, it makes no difference what it is. Such tumors should always be looked on with suspicion.

DR. TINSLEY BROWN, Hamilton: I think the remarks of Dr. Moore are very timely. It is very hard, however, to get the public to attend these meetings. Not long ago I was present at one of Dr. Lutz's meetings, and he had a splendid paper, with lantern slides; the large church was not half full, and across the street was a picture show, and the

street was crowded and all trying to get in there. The people apparently do not take the interest in the matter of being instructed that you would think they do. Four years ago, when I was president of the state association, I went over the state preaching sanitation and things that the public ought to know, and it was very hard to get a good audience. That is why I mention it, in connection with Dr. Moore's remark that every physician who sees a case that he thinks is of a malignant nature should set forth the necessity of an early operation. I think we get at the people better that way. Of course, it is all right if we get the people to attend and hear a lecture because that is what they need, but the trouble is to get them out. People will come to something like last night, something in the nature of a play, when they would not to something that would be of more importance to them. I am not speaking against last night's play. I think Dr. Moore's remarks are timely and should be concurred in.

DR. F. H. BROWN, Billings: I heartily concur in what Dr. Morrow and Dr. Moore have both said as to having a man in the county to dispense this knowledge, for this reason: In the majority of cases these farm journals go to these farms at twenty-five cents a year and up and they, of course, get their support through patent medicine advertisements and quacks who advertise in the pages of these farm journals extensively. The farmers read of cancer cures, and they read of hernia cures without the knife, and they read these again and again. Now, the first time one of the family is ill they send off for one of these cures and the patient treats himself for a while, and finally drops in on the physician as an inoperable case; and I certainly think that if any class of men in the state need to educate the public it is the general practitioner in the country, because he can go into any home anywhere and find in any of them something about a cancer cure. There is nothing that is more humiliating to the doctor than to meet one of these fellows and to find that Mrs. So-and-So has a cancer which he fears is inoperable, and to find they are using a cure from a quack. They will not come to the doctor at a time when he is able to do something.

ADEQUATE HEALTH WORK IMPOSSIBLE UNDER THE CONSTITUTION OF MISSOURI*

DANIEL MORTON, M.D.
ST. JOSEPH

In 1865 Missouri adopted a new constitution. The prejudices of the times inevitably influenced the provisions and character of that instrument. Ten years later passion had somewhat subsided and a new constitution was adopted freed from the injustices of its predecessor. Under the constitution of 1875 we move and live and have our being. It is nearly forty years old. At the time of its adoption Missouri had seen the wreck and ruin that had come to some of her sister states under reconstruction rule. Government by the people had ceased to exist in some sections of the South. The fabric of state government had been con-

*Read before the Missouri Conference for Social Welfare, Springfield, November, 1914.

verted into an agent for the collection of money with which to fill the pockets of the political parasites who had fastened themselves on the body politic. Missouri determined to save herself from political exploitation for pecuniary profit. Therefore she placed in her new charter of liberty, metes and bounds on the taxing power, limiting it and restricting it in the most definite manner and leaving no opportunity for the exercise of discretionary power on the part of the agents entrusted with this vital function.

The year 1875 saw the world living in the age of individualism. The wonderful period of industrialism now existant was unknown. Individuals were able to do largely for themselves all that the demands of domestic and business life required. The farmer was an independent individual almost literally. The means of supplying the needs of the home were open to the efforts of the individual unassociated with others, far more than is possible to-day. The same was true of business. The great combinations of business groups, of capital, of labor, of trusts, was unknown. It is hard for us living in this day of collectivism to understand the conditions that obtained in that day of individualism. Nothing to-day is undertaken on an individualistic basis in the business world, in the educational world, in the scientific world, in the social world. All is done by groups and combinations of groups. That individual does most who unites his efforts with those of like mind, to form a group, which group unites with other like groups until power is accumulated sufficient to move society as a whole. The framers of our present constitution could not realize the wonderful changes that forty years would bring forth, and not realizing they could not write a constitution adapted to them. The progress of these years the world has never before seen in all its history.

In 1875 the germ theory of disease was accepted by only a few scientific men and had never been heard of by the world at large. Pasteur had laid the foundations of the science of bacteriology, but it remained for Koch at a later date to establish firmly the relation of bacteria to disease and to study individual diseases, to isolate the specific germ, to cultivate it outside the human body, and to reproduce the same disease by inoculation of the germ thus cultivated. In 1875 the world still believed in the doctrine of spontaneous generation. Note the following discoveries all after 1875. In 1879 Hansen discovered the leprous bacillus, Neisser discovered the gonococcus. In 1880 Eberth and Koch independently discovered the typhoid bacillus and our own Sternberg the pneumococcus. In 1881 Levaran, the organism which causes malaria. In 1882, seven years later than 1875, Koch immortalized himself by the discovery of the bacillus of tuberculosis.

In the same year Loeffler and Shutz discovered the bacillus of glanders. In 1884 Koch announced the discovery of the comma bacillus, the germ of cholera, and Loeffler the diphtheria bacillus, and Nicolaier the lockjaw bacillus. In 1892 Canon and Pfeiffer discovered the bacillus of influenza. In 1894 Yersin and Kitasato independently discovered the bacillus of bubonic plague. It was in 1890 that Behring discovered the principles of serum therapy, perhaps the greatest achievement of scientific medicine. In 1905 the organism of syphilis was discovered by Schaudinn and Hoffman. The science of preventive medicine is still in its infancy but it has been born since the constitution of the state was written. The influence of modern preventive medicine on economics, on social life, on business life, on every phase of human existence, cannot be estimated. No government can exist to-day and discharge its function for the good of the governed which does not provide in its organic law a way by which the blessings of disease prevention may be related to the lives of its citizens.

We are to-day standing face to face with the fact that our constitution fails to provide adequate means for combating tuberculosis, the greatest foe of humanity, the one foe which uncombated threatens to annihilate the human race and leave this world an uninhabited ball spinning through space. Let us examine the legislation enacted to meet this need and the causes of its downfall. The bill known as the Tuberculosis Hospital District Bill was prepared by persons interested in tuberculosis work and passed by the legislature of 1911. This measure was very complete and provided for all the essentials of efficient campaigning against tuberculosis, such as the creation of districts, boards of commissioners, hospitals, dispensaries, visiting nurses, educational work. Provision was made likewise for the creation of the necessary physical plant and for its maintenance thereafter. All necessary machinery was provided with which to do efficient work of a permanent nature.¹ The County of Buchanan availed itself of the provisions of the law, and declared itself in favor of a tuberculosis hospital district by a vote of five to one. The board was duly appointed but decided to test the constitutionality of the law fully before beginning its labors. Attorneys were retained, a friendly suit was brought and the case was first tried in the Circuit Court of Buchanan County before Judge William J. Rusk at the April term, 1913, who held the law to be unconstitutional. Appeal was

1. The Missouri law was similar to laws enacted by New York, Massachusetts, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, New Jersey, Ohio, Texas and Wisconsin. In the State of New York there are twenty-one county tuberculosis hospitals now in operation. The scheme is practical and is working out successfully. The trouble is not with the law but with our constitution.

taken to the Supreme Court of the state, which sustained the decision of the lower court and the law became as though it had never been enacted.

What was the defect in the law? The constitution of the State of Missouri places the taxing power in the county but places a definite limit on that power beyond which it may not go. Their limits are as follows:

Assessment Valuation	Ratio
6 millions or less.....	50 cents per \$100
6 to 10 millions.....	40 cents per \$100
10 to 30 millions.....	50 cents per \$100
30 millions or more.....	35 cents per \$100

The Buchanan County Board of Tuberculosis Commissioners asked the County Court to levy a tax of twenty-five cents per 100 dollars for carrying on its work, this being the amount stipulated by the act. The County Court was already levying a tax of 35 cents and the two levies added together made a levy of 60 cents. The county had an assessed valuation of over 30 millions on which amount the constitution permitted a maximum levy of only 35 cents. Hence the act was declared unconstitutional.

Thus runs the decision: "That provision of the Constitution may neither be struck down by the general assembly, nor ignored, nor evaded by deft indirection. It stands there as an insurmountable barrier to an increase in taxation for county purposes beyond the maximum rate of 35 cents on the hundred dollars. It goes further. It interprets itself. It declares that the restriction shall apply to taxes of every kind and description whether general or special, except taxes to pay valid indebtedness now existing or bonds which may be issued in renewal of such indebtedness." This decision puts an end to any possibility of adequate financial support by taxation for any forward health movement. The people themselves may desire the tax, may be willing to pay it, but under the constitution they cannot.

The effort, therefore, to find a way under our constitution to combat tuberculosis adequately, covering a period of some five years, has ingloriously failed. Attorneys so far have not been able to point out any other means of accomplishing the desired purpose and we stand helpless before this great problem, with no adequate method possible. If the constitution makes impossible adequate tuberculosis work, then indeed is all other health work hopeless. Tuberculosis is the greatest menace to the public health. It likewise is the one disease which requires for its abatement all the social forces of society. Never will private and philanthropic finance be equal to the task of its abatement.

If the present constitution does not provide a way for adequately financing health measures, what is the remedy? Do away with the present

constitution and provide one that is adequate to the health needs of the present day. I will close this discussion by again quoting the words of the Supreme Court of Missouri: "If peradventure the state has outgrown prescribed taxation, or new discoveries have been made, or a new public sentiment has sprung demanding as a matter of social justice and public welfare, that the hard and fast limits of the present constitution no longer are adequately responsive to the peoples' needs then the remedy is not for this court to emasculate or to whittle away the paramount law by refinements, but it is for the people to at all times cry aloud (*Vidi Catos* iteration and reiteration anent the destruction of Carthage) for an amendment to the constitution in a straightforward constitutional way or to frame and adopt a new one."

King Hill Building.

MISSOURI INSTITUTE OF PUBLIC HEALTH

RICHARD HENRY JESSE
COLUMBIA, MO.

Why found another Institute at all? And why put it far away in Missouri? The answer to these questions is, because no other surpasses in importance the Institute we shall endeavor to define, and because Missouri is an excellent region in which to put it, and also because the present seems a ripe time for action. Europe, to which mankind seems heretofore mainly to have looked in all these matters, now throbs convulsed with war. In America, Michigan comes closest perhaps to the distinction of having such an Institute; but there is scarcely another state that can claim the honor—not among public institutions at least. We have in the United States among private foundations some half a dozen, which grouped together and duplicates eliminated might furnish models for states. An excellent one is in Tulane University at New Orleans; two others, for research of various sorts, are the Rockefeller and the Carnegie Institutes, New York. High in the same class many would place the Johns Hopkins University, Baltimore; a fifth we hope to see soon is in St. Louis when Washington University, Barnes Hospital, and other forces there begin working together properly. Yet another that bids fair to reach mighty usefulness some day as an abiding token of the power of co-operation is now under execution far North, through the combined efforts of Harvard and the Massachusetts Institute of Technology. Can it be that New York, Massachusetts, Maryland, Michigan and Louisiana all need such establishments, public or private, while Missouri needs none beyond St. Louis, and there without

hurry? Would it not seem that so large a region having a population above 3,500,000 people might have one institute of its own dedicated to the health of mankind and controlled by the commonwealth, if only it can be shown that there is need of such a foundation? And if this be true, where could it be placed better than in the State University at Columbia, where much that we dream of is already established? Some objectors may urge a certain lack of hospitals at Columbia; or they may, at least, ask what work is done now in the State University there?

Such an institute, representing such a large region, must have several divisions or departments of work, conspicuous among which should be a school of Public Health, wherein students might find training for every branch of that service, in courses of instruction which, when completed, would lead to a Bachelor's degree or finally to that of Doctor In Public Health. As it is to-day, where could you go, were you ever so eager, to get training of this kind? Unquestionably it might have been had in Europe before the outbreak of war, at Pasteur Institute, Paris, or at the University of Tübingen. And it may be had to-day in our own land, in excellent form, in a few privately endowed institutions; but these are all no doubt filled with students, especially now that Europe is aflame with war. Why should not Missouri blaze the way to better things?

Another division, naturally, would be devoted mainly to Preventive Medicine and Hygiene. Good work in this field has been done at the University of Missouri already, and no doubt will continue; but further development there likewise is needed. Were the university supplied with everything needful for preventive medicine, Missouri might at once offer to all her citizens, at reasonable hours and free of charge, at least thorough examinations against infirmities of body or mind—their presence and prevention, as well as their treatment. To know exactly what ails you is more than half the battle against such disorders; and, sooner or later, we are bound to recognize every disability of every citizen as a public burden, in whose timely removal or control the whole community ought to feel a just concern. It would be taking a long stride in this direction, even to found our Institute aright.

Another department, of course, would be for research and experimentation in things pertaining to public as well as to personal health. In this quarter, again, much has been established at the university; but much, also, remains unprovided for there. The Federal government, through its Department of Agriculture working in conjunction with the several states during the last half century has done some notable things for the welfare of beasts, fish, fowls,

fruits, game, grains, grasses, forests, and so on. Every state has an experiment station, supported in part by itself as well as in part by the nation. A prominent function of this station is to find out and to scatter broadcast knowledge concerning ways of shielding from diseases creatures good for the farm life of that state, animal no less than vegetable; and methods, in general, of promoting their welfare. For humankind in similar directions, little has so far been attempted. The facts are precisely as I have stated. Indeed, man's habit hitherto has been to protect, to foster, and to promote first his property. Nor should it escape notice that, in research of the best quality, much that is valuable for fowls, beasts and plants, is valuable likewise for people. It was, therefore, but in harmony with human practices of the past, that our national government, leading the way about fifty years ago and cooperating with the states, as they severally met the conditions for their colleges of agriculture with their experiment stations, all looking toward a head department at Washington as well as individually to their state governments, should have better provided for the protection of garden truck, and farm animals, and orchard fruits, in all that concerns their vigor and the shielding of them from diseases, than had yet-a-while been attempted in behalf of men. Nor does it for an instant escape our attention how much in human direction has since been accomplished through quarantine stations and public schools, and even hospitals. But systematic, reasonable, and effective methods, based on concerted efforts of states and nation, along rational lines, have thus far been rather in behalf of the wealth-producing creatures of our farms. Had similar policies been pursued with equal zeal in behalf of humankind, we should now have at Washington a Department of Public Health, under a cabinet officer, guiding cooperation in our states and amongst them—a vast and valuable system. Settle such debates as you will, the fact yet remains that in our country, so far as regards the enactments of legislatures and congresses, the preferences thus far have been given regularly to fruits, forests, grains, fowls, and farm animals. Care of them has meant wealth for farmers and votes for law-makers; but, apart from our quarantine stations, public schools, and the like, the care of health in man has been left mostly to the devices of individuals, or the discoveries of institutions. Sweeping assertions should not be tolerated in so serious a question; but anyone acquainted with the movement of these matters in North America during the last half century must testify that our law-making assemblies have, on the whole, taken reasonably good care of the fowls, fish, birds, beasts, game, grasses, grains, fruits, forests, and so on, our policies moving mostly along sane

lines of procedure to wise ends. For example, just here, our aims have moved steadily toward preventing the oncoming of infirmities and toward husbanding the good that already is in farm creatures; whereas, for human kind, matters have been left far too much to the discretion of individuals—toward men our public methods heretofore have been rather remedial than preventive, and in spite of all the good that unquestionably has been done, man, in comparison with his domestic creatures, has not yet had his full share—not, at least, so far as pertains to public policies. It would be just like Missouri to blaze a better way for the race. Deeds like this she has done in bygone days, in lesser things; why not in the present, and in greater things, repeat the policies of old? I am merely suggesting it.

Another division of the institute should be an infirmary, of course, in which the ill from all over the commonwealth may be nursed carefully, by modern methods, and at reasonable cost to the sufferers. Parker Memorial Hospital, on the campus of the university, is a gift from one who saw a great need here and tried to supply it. By its lack of size this hospital shows how much better it would be to make such gifts dependent on the giving of like amounts by the state and possibly on the raising of like amounts from the community and the county. But let us bless Mr. Parker's memory for what he did. His hospital, in quality, surely is a model, although it has only thirty-five beds. For an example of what such an infirmary should look like, let us visit the University of Michigan at Ann Arbor, or that of Minnesota at Minneapolis, one in a town and one in a city. In regard to the last named, let me quote from a Missourian, known and honored by every reader of this journal. The card was mailed me Oct. 5, 1914: "Present capacity of the free Minnesota State University Hospital, 136 beds. Average daily number of patients for the past year, 125. An addition to the hospital, nearly completed, will increase the capacity to 175 beds. Further extensions are planned which, if made, will within the next two or three years increase the capacity of the hospital to about 400 beds."

These figures do not include the dispensary (out-patient department), which has about 40,000 visits annually. Whatever Minnesota people get from this hospital dispensary is wholly free to them, so far as relates to fees and other charges. The officers of the institution receive adequate salaries, I am told, and not one of them practices outside its grounds. Of the great Infirmary at Ann Arbor we shall speak again later.

Another division of our Institute should be a School of Medicine, in which students may get thorough training in all the arts and sci-

ences essential to those who would reach highest efficiency as physicians, surgeons, dentists, nurses, or officers of public health. Much that is indispensable for this training is now at Columbia, working admirably—fundamentals, like anatomy, physiology, pathology, psychology (animal and human), zoology, botany, bacteriology, chemistry (general and physiological), physics (including x-ray operations), engineering as applied to sanitation, methods of nursing, the testing of foods, making diagnoses of diseases and their products, and so on. For all such work the university laboratories at Columbia are, on the whole, well equipped in men and with instruments. Their libraries, moreover, fairly furnished with books and periodicals, will be lodged admirably. For testing, as to their wholesomeness, dairy and other foods for men or for beasts, and for all else that narrowly concerns Public Health and Preventive Medicine, no other place in Missouri is nearly so well equipped. Moreover, much that would be indispensable to this division both of men and of things we must suppose already provided in the divisions aforementioned. With what the university now has and what other departments would necessarily add, nearly everything essential to this division would be at hand—all belonging to the state. The additions would have to be chiefly in teachers and investigators.

We North Americans are so vitally interested in all that concerns Tropical Medicine that this subject alone should form a separate division of our New Missouri Institute of Public Health. Our best medical institutes, feeling how important for us as well as for the residents there, and how valuable for science are health conditions in the tropics, long ago began to study seriously the problems peculiar to these regions, and to publish their efforts and results as fast as light appeared—faster, mayhap, sometimes. Nor will the opening of the Panama Canal and the outbreak of war in Europe, and the consequent enlargement of our trade with South America tend at all to slacken zeal in these sanitary matters. Some day such a department must be developed in midland North America. Why not let Missouri arise to attend to this matter now? In a commercial paper one might point to the retroactive effects of studies in determining exactly where in this land of ours South American trade, or the tropical part of it, shall tend to land. High thinking, able teaching, skillful operating, home-like nursing, undoubtedly do light the ways for the oncoming of commerce, agriculture, manufactures, mining, and so on. But of this another time.

Quite as important as the divisions of our Institute are some of the principles that ought to be planted about it. For example, not one of its officers, teachers, or other learned servants should practice as a physician, dentist,

surgeon, nurse, or otherwise, except in the Institute itself; and there, without any compensation except the regular salary. This means that the state, through its university, shall pay salaries sufficient to command the entire time of able people in sufficient number. Of course, the honor of appointment to the Institute staff, the opportunities for research in the university libraries and laboratories, freedom from cares, and from other vexations quite as bad, would form part of the reward; but after all, there would still be a gap that, in the case of the ablest employees, could be filled only by adequate salaries. Nothing in our plans would prove more costly than carrying out this principle. Salaries of five, six or seven thousand a year, or even more, should cease to seem marvelous for men or women of the best quality. The writer could name a private clinic—the very last he has happened to see—that uses as heads of divisions of work the several members of its (incorporated) staff, but still finds need to employ as assistants seventy odd men and women of liberal education whose salaries range from \$50 a month upward. Four chiefs of important departments, men of rare skill, get salaries of \$10,000 a year each—\$40,000 for the four. What would our legislature say if it could find any arrangement nearly like this in our state university?

Of course, what has been said about commanding the whole time of learned folk without reward other than their salaries would not apply to outsiders, brought in for special discourses or demonstrations. Of these there would always be an adventitious corps. But the regular staff of the Institute ought to be dedicated wholly to its service, and so should be salary-bearing. For so large an establishment, it would seem not wasteful but rather labor-saving to have several orders of salary-receiving employees, somewhat as follows: (1) Heads of divisions—full-time people, whose salaries should be \$6,000 to \$8,000 or more per annum; (2) professors—full-time people, with salaries ranging from \$3,000 to \$6,000 a year; (3) assistant and associate professors—full-time, salaries of \$2,000 or \$3,000 a year; (4) instructors, full-time, salaries from \$1,000 to \$2,000 a year; (5) assistants and fellows, part-time employees, with salaries ranging from \$500 to \$1,000 a year.

Why give any salaries at all to chiefs of divisions, like Preventive Medicine, Diagnosis, Surgery, Therapeutics? Why not let the compensation consist in the honor of the position and the opportunities for study, research, publication and other forms of usefulness? Or if there must be money in some measure, why not let it come in fees from patients? Because you should be willing to pay for it accordingly if you want work done in the best style. The reader will

admit this. But tempting compensation consists not in money alone; for a very tempting form of it comes in a combination of reasonable salary with ample security and honorable position and large opportunities. When a man has reached fifty years of age, \$5,000 a year assured during the rest of his active life, ending in \$3,000 a year for pension thereafter until death and \$1,500 thence on to wife and minor children—all this, I say, looks attractive, far more inviting than does any \$10,000 a year, with outlook good either way, toward increase or decline, but with no greater guarantee attached than the mere fact of possession.

Of course, no student would be admitted as a candidate for a degree who had not completed a good high-school course (four years) and added thereto two years of successful college study. These requirements for medicine the university has been exacting for years.

Why put the Institute in the state university at all? Do not large cities furnish for these purposes some advantages not to be found in smaller ones? Unquestionably; but equally true is it that smaller towns have blessings that size has taken away from great cities, except indeed excursions be made far out among the boroughs. For such an Institute as we are planning nothing will take the place of pure air and clean grounds, with fresh fields beyond; the singing of birds, the crowing of cocks, bluegrass lawns, with flower gardens, deliverance from disturbing noises and so on. Blessings like these are hardly to be had in large cities, except well beyond the line that divides dense population from adjacent boroughs.

The idea that every medical school to prove effective must be in a big city ought now to be discarded as out of date. The very thought was born in confusion of things, as could easily be shown were there time for it. Suffice it now to say that establishments primarily for research in medicine would, on the whole, better be put in centers of population. These institutions, if they be true to their titles, must require of students from the outset a breadth of attainments and a thoroughness therein not hitherto demanded by our best American medical colleges. One fertile source of the confusion looming up just here lies in the false value that has generally been ascribed to the beholding of operations in big amphitheaters, many apparently supposing that the greater the crowd of witnesses, the more valuable the show; whereas, oftentimes far better for the unready spectators than any such sights would have been moving pictures of them with careful explanations. For, however considerable the attainments we suppose demanded in regular students at entrance, nevertheless in respect to such shows all under-graduates might be called, in one degree or another, unprepared. Why not wake up to

the barrenness usual in amphitheater demonstrations, except for—we had almost said—experts; and the fruitfulness possible in moving pictures? Was it not Edison that called them "the Peoples' University"? And has he not wrought from the phonograph power after power, until lectures by any physician or surgeon can be syndicated, and so repeated across continents to eager ears—as was done long ago for keen eyes by newspapers in the telegrams they printed?

Another reeking source of error has been the notion far too widespread that glimpses of the rare, the queer, and the swiftly-befalling are especially valuable in training medical people; whereas, the contrary is oftentimes true. But it is not our aim to enumerate the follies hitherto encompassing American medical schools. Conspicuous in every summary of their sins stand forth these: that they have failed at entrance-time to require of fee-paying pupils attainments that should have been demanded of all that proposed to follow any learned profession; they have slighted, because of the cost of laboratories, some sciences essential to medicine; they have permitted chairs of prime importance to be filled by part-time men; they have in clinical medicine exalted the occasional and the spectacular far above the truly useful; and where instruction has involved bedside practice along with laboratories and lectures, these three have not been well blended. If here or there a school may fairly claim exemption from this general indictment, the rejoinder arises that the emancipation has been so recent, or is so partial, as to excuse our failure to mark it.

Press too hard the theory that, to attain in medicine unto excellent things in healing, teaching, research, publication, an institution must have about it a dense population, and you embarrass almost every state university in this country; for, with a few exceptions, they have all been placed in towns of modest size. The state universities of Michigan, Missouri, Illinois and Wisconsin are justly distinguished in America; yet not one of them, under this condition could give a four years' course in medicine, because it has not about it, within corporate limits, above, let us say, 18,000 people, although each one of the towns has, within easy reach by rapid cars over good roads, quite 100,000 people. Apply similar ideas to engineering and you debar from offering courses in canal-cutting and dam-building nine-tenths of the American state schools, because their pupils cannot all see Suez, Panama, Keokuk, or, indeed, many of the larger structures. Away with such notions! Ann Arbor, the seat of Michigan University, has scarcely 18,000 residents; but the state hospital there has 600 beds, it keeps full, and is about to ask \$500,000 for

extensions. The Dean, Dr. Victor C. Vaughan, comes by birth from Boone County, Missouri, and is well known to his state.

Hearty cooperation there should be between this Institute and every other medical school in Missouri. Of licensed medical establishments there are already too many; but the remedy is to welcome the oncoming of others so long as they be of higher and higher quality. And I would have the best of them cooperating with those next below, just as fast as they showed themselves worthy of recognition. The instruction in medicine at the University of Missouri is already of the best quality; but it covers now only two of the four years that would be required for the M. D. degree in any other university of corresponding quality in other things. For the credit of our state this should be promptly remedied, but the outer world must provide for several extensions; and above all must enlarge the one small hospital. This the university itself is powerless to do. The reader is invited to examine the report of the Carnegie Foundation, Bulletin No. 4, 1910.

SPECIAL ARTICLE

TUBERCULOSIS IN CHILDHOOD

ABSTRACT OF CERTAIN CONTRIBUTIONS ON THE
SUBJECT DURING 1914

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GERMAN TEACHING REGARDING TUBERCULOSIS

Hamburger¹ of Vienna opens the discussion of tuberculosis in childhood with some remarks about the experimental pathology in animals. Guinea-pigs which are infected with bacilli show after one, two or three weeks, depending on the size of the dose, a tuberculous focus at the site of the injection and at the same time a swelling and a tuberculosis of the regional lymph glands. This is called the law of primary affection and of the regional lymphadenitis. If the entrance is through the skin the primary disease is there; if under the skin then it develops subcutaneously; if the infecting point is in the lungs then the primary affection is located there; if the infection has occurred through the feeding, which, incidentally, requires a larger number of bacilli, the primary disease is in the bowel. If one infect an animal which has been once before infected, different results are observed depending on the quantity of the infecting dose: a very small quantity causes little or no manifestation at the site of the injection,

1. Hamburger: Present Situation of the Teaching Regarding Tuberculosis and Scrofula in Childhood with Its Treatment, *Ztschr. f. ärztl. Fortbildung*, 1914, xi, 5.

a somewhat larger dose, say 1/100 or 1/10 mg. bacilli causes in a few hours a marked localized inflammation at the site of infection, which after a few days disappears, while the control animal from this dose reacts after a few days with the development of a primary infection. If one inject a tuberculous animal with a large quantity of bacilli, between 10 and 100 mg., into the veins of peritoneum, it dies suddenly of anaphylaxis. In one case there remains an absolute immunity to a small dose, in another there is sudden death from hypersensitiveness. We assume that with reinfection there results a marked reaction immediately from the formation of antibodies and the leukocytic accumulation with the consequent disintegration of the bacilli.

This theory of Wolff Eisner of the dissolution of the bacilli has since been proven experimentally by Kraus. If the dose is unusually large, the human cells are injured and the animal dies in a very short time. If the dose is small, no symptoms of poisoning appear, and we see only phenomena favorable to the organism, known as immunity. With reinfection no primary disease is developed. Immunity is therefore relative and only for small doses, such animals observed for weeks and months showing no changes; control animals on the contrary suddenly show tuberculous changes. This is called the law of tuberculous exacerbation at the site of infection. From this we conclude that the bacilli are not always completely destroyed, but are injured and retarded in their increase, but remain at the site of infection and can under quite definite conditions again increase and cause a tuberculosis.

As to how infection occurs in man, Hamburger states that the larger or older focus is the entrance point, which in Europe is in 98 per cent. of cases situated in the lung, accompanied by bronchial lymph gland tuberculosis. This indicates that the infection takes place through inhalation of the bacilli as proven experimentally in animals. Flüge has shown that infection takes place through small drops, a drop infection, without always being in intimate contact with a phthisis case. Tuberculosis has begun in most cases in childhood. If one examine children for the presence of tuberculosis, he finds that its frequency increases with increasing age. In the first year only about 1 per cent. react, in the second year as many as 10 per cent., in the third and fourth years about 25 per cent., in the fifth and sixth years 50 per cent., and in the period between 7 and 10 years 75 per cent., and at puberty 95 per cent. That holds good for the well appearing classes of the large cities, where there are generally phthisis cases, therefore for all the cities of middle Europe. From these figures, which show that almost all persons carry a tuberculous focus,

one can say that the disposition to tuberculosis is obligate in man, that every one who takes up bacilli into his tissues must react with the formation of tuberculous tissue.

The first reaction takes place in two to four weeks after infection, and consists of the formation of tuberculous tissue. Children behave quite differently as regards the manifestations according to the age in which they have first acquired it. In 100 children who are infected for the first time in their first year, all of them became sick with tuberculosis; this first reaction, which is the formation of tuberculous tissue, is manifested outwardly by various kinds of symptoms. The majority who are infected in their second year also show manifestations. In the third and fourth year of life one finds frequently children who develop tuberculous tissues without the slightest symptoms. From the fifth to sixth year of life and later this is the rule, and this first reaction runs its course absolutely latent or shows symptoms rarely, approximately not over 5 to 10 per cent. infected after the fifth year actually become immediately sick. This does not refer to a recurrence. The tuberculous tissue can, whether the process has been evident or latent, be clinically healed in certain cases, not anatomically, nor histologically, for within the tuberculous tissue are bacilli always ready if resistance is low to be again propagated and to cause a recurrence.

Does the tuberculous child possess an immunity to re-infection? Most mankind is infected not once but probably a dozen times, and those who live with phthisis cases are infected a hundred times. We should therefore expect that such children who die of some other sickness will show dozens or hundreds of primary affections in the lungs. We find, however, generally only one or two. This indicates that the repeated infections do not cause the same results as the first infections, though they are not without danger.

Immunity depends on the presence of antibodies and the activity of the human cells. A tuberculous organism reacts with immediate inflammation not only from the influence of living, but dead bacilli and their derivatives, therefore from tuberculin, which is the indicator of the capacity to react and of the more or less pronounced immunity to repeated infection. If this sensitiveness is strongly pronounced then we can assume that immunity is good. If it is reduced below the normal then we can assume that immunity is reduced and that now the bacilli can free themselves, break through the cell walls, get into the blood stream and cause disease. A typical example of this is found in the decrease in reacting capacity during measles. After measles children previously well or who had earlier had tuberculous symptoms become sick with tuberculosis. These are not acciden-

tally infected during measles, but previously had an absolutely latent case which was activated through measles. There are also many other infectious diseases which decrease the capacity to react to tuberculin.

Pulmonary phthisis is a disease which generally begins in an apex. It is an infiltrating, then a contracting or destructive process which involves the lobes of the lungs and robs them of their normal function. It is found only in older children, seldom under 6 or 7 years of age. In a case where a child is only 8 or 9 years of age we can always show that it had had the opportunity for infection in infancy by being with a phthisis case, which is synonymous with infection. Later, at the age of puberty and from 18 to 20 years, phthisis is unusually frequent.

For the origin of phthisis it is necessary for the affected individual to have been infected at least five to ten years before. In other words, phthisis is a late form of tuberculosis.

Clinical symptoms are divided into general and local. The general are the same as found in any chronic infectious disease, consisting of fever and wasting. The fever is generally remittent, frequently subnormal. Temperatures from 37.4 to 37.5 are suspicious, especially if mornings the temperature is 36 degrees. If therefore the difference between morning and evening is more than $7/10$ or one degree, it speaks for a chronic infectious condition. Fever need not appear every day; there are cases where it is missing for from four to seven days, to reappear again for two or three days. Wasting is a very frequent symptom. We miss it, however, frequently in infants, whom we see gaining almost normally for three or four months. You should not exclude tuberculosis in infants because they appear well, for there are fat, strong infants.

The local symptoms are divided into those dependent on the first reaction or primary disease in the lung and those dependent on bronchial lymph gland tuberculosis. The primary disease in the lung explains the cough, the secretion which falls into a bronchus sets up irritation and thereby a cough, which is almost never absent. In beginning tuberculosis we do not find the primary affection by percussion and auscultation. Hence such a focus will escape the clinical and physical examination. Bronchial lymph gland involvement is present in every case, but with almost never any clinical symptoms except in the first two years of life. There is, however, one clinical symptom dependent on the glandular swelling which is frequent and plain. This is manifested as a metallic, ringing or whistling cough, and as a respiratory stridor. The infants look well and strong but they have a far-off audible respiration, often previously noticed by the mother. This symptom is markedly typical of bronchial gland

tuberculosis. An irritative cough resembling pertussis may appear.

Pulmonary tuberculosis in children is certainly not rare, but in Hamburger's opinion more and more difficult of certain diagnosis. Extensive infiltration is seldom of a tuberculous nature, especially if the condition is a chronic one. If children cough for weeks and have an infiltration in an upper or lower lobe, you are more inclined to the diagnosis of chronic pneumonia. A wide-spread tuberculous infiltration proven by percussion and auscultation is rare in the first six years of life. If a child has previously had measles it speaks for a tuberculosis. As described by Weigert, a bronchial gland tuberculosis breaks through into a bronchus soon after measles, the tuberculous material is aspirated and a tuberculous pneumonia develops. In children two to six years old who cough, are growing thin, have fever and night sweats, all of which are naturally suggestive, we find frequently little, if anything, chiefly a light dullness or râles between the scapula or in front below the right of the sternum. In the Roentgen picture it is not rare to find a quite characteristic infiltration of lung tissue. The entire course, the pronounced reaction of tuberculin, speak in favor of a tuberculous process, even if such a focus again completely disappear.

Concerning Roentgen diagnosis one should depend only on shadows which are not ambiguous, and which indicate undoubted pulmonary tissue infiltration. One should not depend on shadows which are designated as enlarged hilus shadows, which the roentgenologist and pediatric look on as simply tuberculosis of the bronchial lymph glands. That is frequently erroneous, for some of these cases do not react to tuberculin and are therefore definitely tuberculous-free.

Phthisis is found frequently in children beyond the age of 8 years. A pronounced apex dullness with bronchial breathing and râles speaks with a great probability for tuberculosis. It can be differentiated only by bacillus examination, bacilli being rarely found in the expectoration of children. The sputum can be injected into a guinea-pig for proof.

Pleurisy, which is unusually common in children, is, if of a serious nature, almost always tuberculous. Apparently a tuberculous focus reaches and infects the entire pleura. The diagnosis is easy. The mistake is frequently made in a child taken suddenly sick with a chill, severe pain in the side, high temperature, pronounced dullness in an upper lobe and bronchial breathing, by diagnosing pneumonia. The next morning the child is feeling active but by night there has returned the picture of the day before. Later it is found that a pleurisy has developed. These may have been pleurisy from

the first. Acuteness does not speak against their tuberculous nature.

Cutaneous Tuberculosis.—From one to three furuncle-like indurations are found in the subcutaneous tissue cells, usually of the lower extremity, occasionally of the face. One does not think of it as a tuberculosis. The children are at first still in good condition though already coughing. The fact that there are furuncle-like formations appearing in small numbers speaks for tuberculosis, unless there are as many as ten to thirty. It is probable that that erythema nodosum is tuberculous, and associated therewith symptoms of tuberculosis may develop.

Frequently tuberculous symptoms are shown in the conjunctiva as a phlyctenular conjunctivitis, usually tuberculous. Children who look well will show reaction to tuberculin in 10 to 25 per cent., while children at the same age who have phlyctenular conjunctivitis will react in as high as 95 per cent. The quick disappearance of the disease is not against tuberculosis. Other tuberculous symptoms are shown, such as a cough and positive Roentgen shadows.

Bone tuberculosis is unusually frequent, spina ventosa, coxitis, gonitis, spondylitis, and tubercle of the brain are no ways rare, nor is tuberculosis of the testicle. Every irregular enlargement of a testicle or epididymis which has uneven surfaces is to be looked at as tuberculous. Intestinal manifestation is relatively rare, appearing almost only in children with phthisis. Peritonitis is somewhat more frequent and the victims react weakly to tuberculin, for such children did not possess the immunity needed to ward off the reinfection from the swallowed sputum.

Lymph Gland Tuberculosis.—Glands of the neck are frequently involved, yet the diagnosis is too often made, especially in the cases which have for months hard pea-sized glands on both sides of the neck and have no trace of tuberculosis. The glands in front of the angle of the jaw are occasionally tuberculous.

Tuberculous Meningitis.—In every case where a child vomits, one should think of the possibility of meningitis without saying so to the parents. Very frequently is an acute gastric catarrh nothing other than a beginning meningitis.

Scrofula.—One considers phlyctens, tubercles of the face, granulating eczema, swollen upper lip, eczema of the nostrils, with their accompanying cervical glandular enlargements as scrofula. It is a term as used here which should be discarded, as it complicates the nomenclature by having such a word for a definite form of tuberculosis. If the pathological changes are not of a tuberculous nature one can use Czerny's designation of the exudative diathesis.

Tuberculin as a Diagnostic Measure.—Use tuberculin as little as possible for diagnosis. In single cases make the diagnosis from the clinical examination, if possible, and do not build too much on a positive reaction which proves only that the individual has been infected, not that he is sick with it. In a child 1 or 2 years old who reacts, who is sick with the disease which is progressing, a positive result with tuberculin has great value. Beyond this age it has no great diagnostic value but a negative one, for then can one exclude tuberculosis. A negative von Pirquet reaction should not be regarded as absolute; it is only one method. Every scientific work which employs only this method must be discarded as useless, and every diagnosis which excludes tuberculosis on the ground of a negative Pirquet must be doubted. One proceeds best as follows:

First make a Pirquet test and if this is negative, then inject, in two days, never later, 1/10 mg.; if there are no changes to be seen at the sight of injection, then one can make a further injection using 1 mg. If this shows no local reaction then one can with certainty exclude tuberculosis. It is of immense value in a suspicious case to be able to say to the parents that you can guarantee no tuberculosis.

The prognosis depends chiefly on age at time of first infection. Children infected in their first year of life die in from 70 to 80 per cent. during the first year of age; of those infected during the second year, perhaps 15 to 20 per cent. die at that age; from the third to fourth year the percentage would not be more than 5 to 6 per cent., and beyond these ages about 1 per cent. die. Many of these children at this age die, but from recurrences. The prognosis depends on the time of recurrences. If a child of 3 years who has had a pleurisy had already had tuberculosis for a year it is regarded more serious and the disease lasts much longer than if the child was lately non-tuberculous.

Prophylaxis of Tuberculosis.—The prevention of the first infection is attempted mainly in the first two or three years, the period of great danger. Beyond this age infection is not so dangerous. One can prevent an infection only through absolute isolation. The measures recommended to phthisis cases, such as the use of the sputum cup, will never prevent infection. The phthisis case coughs small drops of sputum, or they are expelled by articulation, laughing or sneezing, to which the bacilli cling, and so a short time suffices to infect the children under such conditions. Children who live for a few weeks with phthisis cases are always tuberculous. The child of 2 to 4 years of age must be kept away from phthisis, a hard thing to do when the relationship is close, almost an impossibility if it be the mother who has phthisis.

How to prevent re-infection is hard to know. We can assume that re-infection is not so dangerous as the first. It is possible that those who are infected a thousand times in childhood are more liable to an exacerbation than those who are infected only ten to twenty times.

We should prevent all children whom we know have lately had a tuberculous infection or disease from having measles or pertussis. Unfavorable hygienic conditions consist of an unnatural, unphysiologic mode of living. A physiologic manner of living is somewhat possible in the country, where it is cheap, but in large cities it has become very dear. Therefore tuberculosis in childhood is especially a disease of the poor because they lack sufficient nourishment, sunlight and air.

Medical treatment does not promise very much; however, it is important. It is always important to prescribe creosote and guaiacol preparations and, above all, cod liver oil.

Specific treatment consists of passive and active immunizing; the former consists of the injection of Maragliano or Marmorek serum. From this treatment little is to be expected. Active immunization is divided into an antitoxic (treatment with large doses) and a sensitizing (treatment with small doses). We prefer the latter. The antitoxic, the original Koch method, must be spurned as dangerous with children, for the circumstances with adults and children are essentially different. Much is not to be expected from small doses but one can always try it. The technic is as follows: if the Pirquet reaction is positive, we inject 1/10,000 mg. and repeat this dose in one week until the local reaction at the point of injection is positive. If it was negative we inject next day a tenfold larger dose, 1/1,000 mg. and increase eventually to 1/100 mg. if the reaction remains negative. In other words, we increase the dose every day until we come to a positive reaction—the non-febrile reaction. If we arrive at a dose which makes a small infiltration, then we wait a week and repeat this dose, or if this dose was over 1/1,000 mg. then we go back to 1/1,000 mg. for the next injection. The object of this method is to maintain the capacity for reaction to tuberculin at its highest. If the children react to an even smaller dose, just so much more favorable do we consider the prognosis.

Of by far the greatest importance are the physical dietetic measures. The children are compelled to eat, unless they grow thin on an unwise diet. If they do not eat one can employ a stimulant for the appetite; if they show a physiologic resistance to eating and are allowed to go hungry for twenty-four hours we will often see the appetite return.

It is important to keep the children the most possible in the air and sun. Anyone who has seen how quickly all possible forms of tubercu-

losis are bettered if they go in winter up into the mountains and there lie naked in the sun, how children recover if they have passed such a life for several months, will always if the external circumstances permit it send the children in winter to the mountains, in spring to the coast, and in summer to the north sea coast or to the mountains. This is the most useful physical treatment in this respect. With the poor this is not possible, but one can attain much in the city and flat country by the naked treatment in fresh air. It is almost unbelievable when you think of it that children can lie naked in the open air with the temperature 7 to 8 degrees C. without freezing.

In conclusion: The most important in the treatment of tuberculosis is the physical-dietetic therapy, the most important in this is always air and sunshine.

EXAMINATION OF THE CHEST IN CHILDREN

Smith and Sweet² report 100 children from 1½ to 13 years of age brought into the Massachusetts General Hospital for examination because of cough or exposure to tuberculosis. Little elevation of temperature was found in cases infected with tuberculosis alone. Two children with active tuberculosis were above the average in weight. None of the ten children with night sweats had active tuberculosis. Four children with active disease appeared in perfect health. Thirty-four children gave a definite history of exposure. Of this number, but six had a negative von Pirquet reaction. Sputum, which is hard to obtain, was found to be of the same value as in adults. Eighty-nine cases showed some lesion in the chest on Roentgen examination, which the authors consider as a valuable aid in diagnosis, but not a method which can replace a careful physical examination. Positive D'Espine sign is pathognomonic of enlarged bronchial glands. In sixteen cases the Roentgen-ray picture was the only evidence of enlarged bronchial glands. Of the 100 suspected cases only 9 had active tuberculosis; 63 had evidence of a quiescent tuberculous infection and the remainder had no evidence of tuberculosis at all. Children with old inactive scars should not be treated as cases of active tuberculosis. Some suspected children will be found to have some other infection than tuberculosis, but their treatment should include prevention of exposure to tuberculosis.

SCROFULA

McNeil³ concludes from personal observations that scrofula is something more than a

2. Richard M. Smith and Clifford D. Sweet: *Amer. Jour. Dis. Child.*, September, 1914, viii, 9.

3. McNeil: *Scrofula or Hypersensitiveness to Tuberculous Infection: Its Relation to Abnormal Constitution (Status Lymphaticus)*: *Edinburgh med. Jour.*, April, 1914, xii, 4.

variety of tuberculous infection. It is found in the individual who gives hypersensitive reaction to various infective agents, the tubercle bacilli, the most common. These children have an abnormal constitution which is designated the status lymphaticus.

UNDER WHAT CONDITIONS IS THE DIAGNOSIS OF TUBERCULOSIS IN CHILDREN JUSTIFIED?

Hawes⁴ believes that clinical tuberculosis presenting a picture which is indicative of definite treatment should require in cases which are not advanced and in which some acute infection causes a negative reaction, a positive skin tuberculin reaction. If constitutional signs and symptoms are absent a definite diagnosis is unwise. Signs in the chest are of value, but without constitutional disturbance may mean chronic influenza and pneumococcus infections. If absent they would not preclude the possibility of tuberculosis. Diagnoses from the Roentgen ray alone are apt to be wrong, for other evidence is needed.

ARTIFICIAL PNEUMOTHORAX

Vogt⁵ believes that it is now shown that artificial pneumothorax is beneficial for young children beyond the age of infancy. Tuberculin treatment in children has not been proven of value.

THE PORTALS OF INFECTION IN INFANCY

Von Pirquet,⁶ from investigations made in the University Clinic for Children in Vienna during the past ten years, concludes that in infancy the tuberculous infection through the respiratory organs, which he calls bronchogenous, is the chief mode of entry (about 95 per cent. of all infections). Infection through the intestinal tract, enterogenous, is not over 1 to 2 per cent. in Austria. Infection through the placenta, skin and nasopharynx, he regards as a rarity. From these facts he draws the conclusion that to prevent infant tuberculosis it is chiefly necessary to separate the nursing from coughing adults. Although intestinal tuberculosis is often found at the autopsy of infants, he believes it is generally secondary to the swallowing of tuberculous mucus from the lungs.

THE HEALING PROCESS IN THE BRONCHIAL GLAND TUBERCULOSIS OF CHILDREN

Rist⁷ of Paris considers the question of what happens to the tuberculous bronchial glands of children, the majority of whom recover from the disease. Tuberculosis of the bronchial glands in children is always caused by and fol-

lows the disease in lung tissue. Calcification may or may not take place in the healing of caseous glands. He mentions the marked contrast to adults in whom the disproportion between lung and glandular lesions is reversed. From autopsies on adults dying of extensive tuberculosis of the lungs, the bronchial glands are of normal or only slightly larger size, and seldom show caseous degeneration. Scars of healed tuberculous lesions are found in some few glands in the adult case, occupying only a part of the gland, the remainder of which is healthy. These scars are hyaline masses, often anthracotic and partly calcified. In the healing process there results a hyaline degeneration, and the tuberculous follicular formations in the peripheral fibroid portion of the caseous gland gradually disappear. Much of the gland is physiologically normal and has not lost its ability to react to other diseases. Rist believes that caseation of the bronchial glands is not due especially to childhood, but to the infection being primary at that time of life and that the reason why adult glands do not as a rule become acaseated is not found in any essential difference in the gland, but because pulmonary tuberculosis of the adult is a re-infection.

BACTERIOLOGIC STUDY OF TUBERCULOSIS OF THE LYMPH GLANDS IN CHILDREN

Mitchell⁸ reports the incidence of tuberculosis found in 29 autopsies on children under 12 years of age, and the differentiation into bovine and human type of bacillus. Bovine tubercle bacilli were isolated in four of the children who had tuberculous lesions, primary in the mesenteric glands. Three of these cases died of tuberculous meningitis. In the seven cases which yielded the human type of bacilli, six showed the primary seat of the disease in the bronchial glands. He disclaims any attempt to prove in this small number of cases the relative frequency of the two types, but believes that bovine tuberculosis should not be considered a negligible factor in children, since the common use of unsterilized milk in Scotland permits the entrance of the bovine bacilli into the gastrointestinal tract of children.

TUBERCULOSIS OF THE BRONCHIAL GLANDS AND LUNG HILUS

Stoll and Heublein⁹ conclude from their study of the subject, including Roentgen-ray examination, that tuberculosis of the bronchial glands and pulmonary hilus is the usual location prior to the age of fifteen. Early symptoms are not definite and are toxic in origin. Usually there is a cough, but this may be absent although the

4. Hawes: Boston Med. and Surg. Jour., May 21, 1914, clxx, 21.

5. Vogt: Ther. der Gegenw., Berlin, June, 1914, lv, 6.

6. Von Pirquet: Edin. med. Jour., September, 1914, xiii, 3.

7. Rist: Edin. med. Jour., September, 1914, xiii, 3.

8. Mitchell, Edin. med. Jour., September, 1914, xiii, 3.

9. Stoll and Heublein: Amer. Jour. Med. Sciences, September, 1914, cxlviii, 3.

disease is well advanced. The primary lesion may be in the lower lobe, though usually considered most common in an apex. There are physical signs which show the process at the root of the lung. Interweaving dilated veins over the chest usually indicate glandular pressure. The authors have noticed a phenomenon which is designated as a dimpling of the anterior chest surface over the hilus. This is seen when the individual holds the breath at the end of respiration. The region comprising the upper two interspaces between the midclavicular and parasternal lines will show an apparent retraction on both sides caused by the failure of this part of the chest to expand. This hilus dimpling or depression shows best in an oblique light. Parasternal and paravertebral dullness are sufficient signs. The authors place confidence in the increased whispered voice (bronchophony) heard over the upper thoracic vertebrae or for a certain distance to either side (D'Espine's sign). Having the child whisper the word "tree" gives an echo to the final "e" which is characteristic. Radiography is of the utmost value in bronchial gland disease.

DIAGNOSIS OF CHRONIC PULMONARY TUBERCULOSIS IN EARLY LIFE

Landis and Kaufmann¹⁰ report the study of 362 children who were examined at Phipps Institute, University of Pennsylvania, three or four years ago. These were brought to the Institute because of tuberculosis in the parents. Tuberculosis of the lungs in infants and young children is usually acute, both sides affected and quite general because of its miliary or bronchopneumonic characteristics. The authors believe that these peculiarities of childhood are increased, namely: the breathing is of the puerile type, the air may be expelled against the roof of the mouth and cause a bronchial quality heard over the entire chest; the vocal sounds are more pronounced and the percussion note usually hyperresonant. When the child is held in a faulty posture the two sides of the chest do not move equally or together, and therefore the breath sounds are not equal on the two sides. The child may be held too firmly on one side for good expansion. The child should therefore be in a straight position with no embarrassment to normal movement of either side of chest. The diagnosis of enlarged bronchial lymph nodes is believed by the authors to be no easy matter. Children below standard in health, with persistent, hard, brassy cough with no resultant sputum are the ones most likely to have this condition. The authors believe that the von Pirquet and Moro skin tests are of little value except as an evidence of hypersensitivity to tuberculin.

Most of these children are regarded by the authors as suffering from sociologic evils rather than from tuberculosis, and should be removed from unsanitary surroundings whether well or infected. The term "pretuberculous" can be used for the former children. When an examination shows a child to be below normal physiologically, the child should be given nourishing food and healthful surroundings, open air schools, and sanatorial care, for the mortality and morbidity are higher if unsanitary conditions prevail.

SOME OBSERVATIONS ON BRONCHIAL ASTHMA *

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With the statement that it has been nearly eight years since the more important observations of this presentation were made you must realize that I am at least reticent in attempting to add something that I believe is unusual if not entirely new in the conceptions of bronchial asthma.

It so happened some few years ago that I was housed with a man who suffered from periodical attacks of extremely severe expiratory dyspnea.

The attacks recurred each day as often as four or five times. I was privileged to study the case, endeavoring to relieve him, for a period of four weeks or thereabouts. Just before the end of this time, I succeeded in discovering a combination of remedies that effectually relieved the attacks within a very few minutes after administration.

In my desperation I tried a very large assortment of remedies, all those that are ordinarily recommended in the text-books for the various types of asthma. Morphine in $\frac{1}{4}$ to $\frac{1}{2}$ grain doses subcutaneously gave slight relief, but this was usually slow in arriving. I made use of injections of strychnine.

On one occasion, when the patient was suffering acutely, I gave $\frac{1}{20}$ grain of strychnine, and waited for perhaps ten minutes, and there was little or no relief. Then I gave $\frac{1}{4}$ grain morphine, and much to my relief as well as that of the patient, the breathing almost immediately became easy.

A few hours later another attack came on and I gave the morphine first, and there was little or no relief until the strychnine followed.

I tried these agents repeatedly, sometimes giving one first then the other, but always the results were the same.

*A preliminary communication.

* Read in General Session of the Missouri State Medical Association, at the Fifty-Seventh Annual Meeting held at Joplin, May 12-14, 1914.

10. Landis and Kaufmann: Amer. Jour. Med. Sciences, October, 1914, cxlviii, 4.

If the two were given together the relief was prompt, and all but instantaneous. Later I used the drugs by mouth to avert the attacks.

The use of these two drugs combined to so successfully relieve the attacks is point one of my observations.

Point two is that each attack was preceded by a spell of hard coughing.

The patient might have several hours of peaceful, quiet breathing and no coughing, and then after restraining the cough for a time it became impossible to restrain it longer.

The cough invariably came on gradually, and then developed into paroxysms.

After a few moments of coughing the inspiration and expiration each became labored, and in the end, the length of time being in inverse ratio to the severity of the paroxysm of coughing, the inspiration became short and the expiration became long and labored.

Without the use of the strychnin and the morphin the severe attacks wore away very gradually, it being usually two to three or more hours before the respiration became easy.

As the irritation which was responsible for the cough wore away, the dyspnea began to fade gradually and slowly.

The use of morphin alone seemed to allay the throat irritation that caused the cough, and therefore assisted to a limited extent in the disappearance of the dyspnea.

Point three is that while the patient was having the paroxysms of coughing, the veins of his neck became greatly distended and his face much flushed.

This may even occur however in an individual who does not suffer from asthma. Since the damming back occurs in the pulmonary vessel the right heart must have a heightened blood-pressure.

The fact that most asthmatics cough a great deal, and the fact that the coughing raises the blood-pressure in the right heart probably out of proportion to the concomitant rise in the left heart constitutes, I believe, one of the important factors in the production of respiratory dyspnea.

An observation which is common to the physiologic laboratory is, that in the manometer tracings from the carotid of a dog there are waves corresponding to the respiratory movements of the animal. The rise in the tracing is due to the inspiration, whereas the fall occurs with the expiration. In other words inspiration facilitates the flow of blood from the right heart to the left. Expiration at least does not assist the blood from one heart to the other, and most likely even ordinary expiration hinders the flow to an appreciable extent.

Coughing, which is a forcible expiration, may hinder the flow of the blood to a marked extent,

and certainly when the prolonged difficult expiration has once developed there is a marked hindrance offered to the flow of the blood from the right to the left heart.

One of the old theories of the cause of bronchial asthma is that the vessels of the bronchial mucosa of asthmatics are greatly dilated. It has been a matter of observation at autopsies of asthmatics that the bronchial mucosa does contain dilated capillaries.

If the capillaries are dilated it is reasonable to suppose that the lymph spaces of the bronchial mucosa are also dilated.

The sequence of events that are responsible for an attack of bronchial asthma, according to my view then is about as follows:

1. The patient has a bronchitis more or less of a chronic nature.

2. He coughs considerably, in paroxysms at times.

3. The forceful coughing causes a damming back of the blood into and back of the right heart.

4. This increased venous pressure causes an increased pressure in the bronchial vein and in the bronchial capillaries.

5. As the venous pressure increases the flow of lymph from the thoracic duct and its tributaries will also be more or less hindered.

6. The damming back of the lymph into the lymph spaces of the bronchial mucosa and of the blood into the capillaries of the bronchial vein causes a swelling of the mucosa of the bronchi.

7. In the smaller bronchi this swelling is sufficient to greatly obstruct the passage of air through the bronchi.

8. During inspiration all this damming back of blood and lymph is decreased, and air is allowed to pass through the bronchi more readily than during expiration.

9. As the expiratory effort forcefully dams back the blood and lymph the expiration becomes very difficult.

10. There is thus established a vicious circle, particularly if there is any coughing after the dyspnea develops.

11. The morphin and strychnin relieve the attacks by virtue of the facts, I think, that the morphin relieves the bronchial irritation and some of the mental anxiety, while the strychnin probably does its work by its effect on the arterioles, raising the systemic blood-pressure and increasing the nourishment to the over-worked right heart.

Actual tests that I have made show that the injection of the strychnin and morphin lowers the systolic but raises the diastolic pressure.

Time does not permit taking up the discussion of the various theories that have been

advanced to explain bronchial asthma. Suffice it to say that reflex conditions in many cases play an important part in predisposing to and in setting up the attacks. For this reason there is no class of conditions that requires more careful study to ascertain all the factors that may be contributory.

The nose, the lungs, the heart, the stomach, the nervous system, the food, etc., need to be investigated as a routine in the study of each case.

In conclusion, it is my belief that the symptom complex known as bronchial asthma is due, in the main, at least in many cases, to the following factors.

1. Bronchitis.
2. Chronic cough.
3. Overworked right heart.
4. Dilatation of bronchial capillaries, lymph vessels.
5. Reflex conditions.

Humboldt Building.

HEMORRHAGIC DISEASE OF THE NEW-BORN*

JULES M. BRADY, M.D.
ST. LOUIS

Judging from the present state of our knowledge it will be a long time before we can even begin to approach the final word on some of the diseases of the new-born. The hemorrhagic disease of the new-born as the result of therapeutic endeavor has been divested of much of its mysteriousness; the pathology of the disease, however, still remains a deep secret.

To Townsend of Boston belongs the credit of having called the attention of the profession to the fact that hemorrhage occurring in the early days of life was a distinct clinical entity and had nothing to do with the hemorrhages occurring in later life. It was he who chose the caption "hemorrhagic disease of new-born" and emphasized that it was a disease *sui generis*.

Incidence.—Many physicians in practice for several years have never met with this disease but all large maternities throughout the country have had their share of cases. That the disease is somewhat more frequent in institutions than in private practice is probably true; this increased frequency of the incidence of the disease in institutions, however, may be only apparent and not real. Where a large number of babies come under the observation of one man the morbidity is more likely to be reported than when extending over a large field. At the time when pyogenic infection was believed to

be a dominating etiological factor, institutions were supposed to favor the appearance of this disease. This belief was held before our present day model maternities were established.

Physiology.—It is owing to the wide gaps in our knowledge of the physiology of the clotting of blood that so much difficulty has existed in interpreting this disease. According to Mellaby coagulation of blood is ultimately due to the action of fibrin ferment on fibrinogen. Fibrin ferment does not circulate as such in the blood but is produced when any tissue is injured so as to liberate thrombokinase in the blood stream. This kinase, in conjunction with the calcium salts present in the blood, generates fibrin ferment from the prothrombin associated with the fibrinogen; and the production of fibrin ferment in molecular continuity with the fibrinogen insures that coagulation will take place in the shortest possible time. That this is only roughly what actually takes place in this important process and that many chemical, physical, and electrical factors of which we have not even an inkling, are at work is not improbable. One might theorize all day on this most wonderful provision of nature for the stoppage of hemorrhage.

There has been sufficient experimental work carried on in regard to this substance known as thrombokinase to say with positiveness that it hastens the coagulation of blood in wounds as a result of being set free by injury to the tissue cells. Any fibrin ferment present in the blood is neutralized by antifibrin ferment which is present in large amounts in normal blood. Its function is to prevent the occurrence of an extending coagulum due to the passage of fibrin ferment from its original seat of formation and not to prevent the coagulation at the site of injury.

In the coagulation of the blood five factors, then, are essential: (1) Calcium salts, (2) kinase, (3) prothrombin, (4) fibrinogen, (5) fibrin ferment. When these substances are all present in normal amounts we have formed a normal clot; a diminution or absence of any one of them results either in an inferior clot or the blood remains fluid. If the calcium salts are diminished, the coagulation time is greatly delayed; if the same are entirely removed as may be done with ammonium oxalate, no coagulation whatever occurs. If the salts are normal in amount and the prothrombin absent, the onset of the coagulation time will be normal, but there results a homogenous gelatinous coagulum. If the kinase is absent the blood does not coagulate at all and remains fluid like the serous exudates.

Clinical Course.—The following case seen in consultation last April is a typical example of

* Read before the St. Louis Medical Society, Oct. 17, 1914.

the disease. Baby W., born at full term. Mother a primipara aged 23, perfectly healthy. Birth normal and Dr. Niedringhaus, the physician in charge, reported infant perfectly normal, weight 8 pounds. On the second day nurse noticed infant ill; there was a large amount of black blood in the stools. General appearance was one of distress and calamity. Features were pinched, skin pale, surface cold, temperature subnormal. This was a pure case of melaena neonatorum, as no bleeding occurred from any other tissue of the body. No blood was vomited. The baby was able to nurse the mother but owing to the deficiency of milk secretion supplemental feeding was resorted to. In the four days following, consequent upon the hypodermic injection of blood administered in three seances at eight-hour intervals the infant was reclaimed.

The following points require emphasis: The infant at birth is usually strong and vigorous but not necessarily so, as a puny infant may likewise be attacked. Hemorrhage usually occurs before the tenth day; it may occur from any tissue or organ of the body. Gastro-intestinal hemorrhage constituting what is known as melaena neonatorum is probably of most frequent occurrence.

The mortality up to the introduction of the blood treatment by Welch of New York was about 80 per cent. The disease before this time seemed to run a self limited course. The self limited nature of the disease is demonstrated by a case which came under the observation of the writer several years ago at St. Ann's Asylum. An infant at birth, weight 9 pounds, strong and vigorous, on the third day vomited a large amount of bright red blood; the stools were tarry for several days. It seemed for a time the infant was exsanguinated. In previous cases a wide variety of drugs had been resorted to without avail and the futility of any form of medication seemed apparent. Nothing was administered but whey with a small addition of condensed milk, believing that if the infant was to recover nature would stop the hemorrhage. The baby made a good recovery.

Pathology.—At the present time we can say that there are three groups of cases. (1) Those due to syphilis, (2) those due to bacterial infection, (3) those the etiology of which is unknown. At one time it was contended especially by some German writers that all these cases had a syphilitic base; now we know lues accounts for but a small group of cases. A classical post-mortem finding in sepsis neonatorum is the presence of minute hemorrhages in the parenchymatous organs. As the result of bacterial action in the walls of the small blood vessels hemorrhage is bound sooner or

later to occur. But there is a third group of cases which have nothing to do with syphilis or sepsis and these cases should be reserved for the caption "Hemorrhagic Disease of the New-Born."

The nearest we can come to the pathology of this disease at the present time is to say that there is a small group of new-born babies which are deficient in one of these five important elements concerned with the coagulation of the blood. It must be borne in mind that the hemorrhage seems to be an oozing through the tissues and apparently there is no lesion at the site of the hemorrhage. Thus we see that duodenal ulcer, a prominent symptom of which is hemorrhage, can not be included here. Whatever is necessary is supplied by the injection of blood or, what is just as good, blood serum. Whether the disease depends on the absence of one of these elements or whether there is a combination of factors at work we can not say.

Therapy.—A few years ago great results were expected to follow the administration of calcium owing to the important part played by the calcium salts in the coagulation of the blood. Test tube experiments show that the addition of calcium to blood plasma which has been prevented from coagulating does increase the coagulability; but when administered to a patient it has been shown that the ionizable calcium salts, the form that enters into the coagulation of the blood, can be so slightly increased that the coagulability is not affected in the least. Hence the absolute failure of this form of therapy.

Welch of New York, in 1910, called attention to the phenomenal results following upon the subcutaneous injection of human blood serum. As the result of this treatment, as is well known, provided the infant is not moribund, there is no mortality. Personally I prefer to use the whole blood, injecting it deep in the gluteal muscles immediately after its withdrawal from the donor. I have done this a great many times with the happiest of results. The needle must not be too small as the slightest clotting of the blood will stop the lumen. A needle too large is not advisable as it is too difficult to enter it in the vein. It is necessary to act with celerity so that you are able to empty your syringe. A dose of 15 to 30 c.c. of whole blood every four to eight hours depending on the urgency of the case is to be recommended. The difficult operation of transfusion should be reserved for the moribund cases. Allowing the blood to clot and injecting the serum has been much practiced but seems to me to be less desirable than the use of the whole blood.

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OF THE

Missouri State Medical Association

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JANUARY, 1915

EDITORIALS

QUIET ZONES

Several months ago St. Louis adopted an ordinance establishing quiet zones around hospitals but its merciful mission does not seem to have penetrated the consciousness of those who have charge of the numerous private hospitals in that city, there having been not more than a dozen requests for the protection afforded by this modern movement. All city hospitals have been surrounded by these zones.

Physiologists and psychologists are beginning to call attention to the influence of noises on the secretory, circulatory and digestive processes. Among others, Pavlov has furnished some convincing evidence that the delicate machinery controlling the functions of such organs is acutely responsive to noise. Laboratory experiments with normal animals and humans show that the influence of sounds of varying intensity and quality can be quite accurately measured.

Since the functions of normals with their natural resistance to assaults by malign influences are affected by sounds, how much more acute and depressing must be the reaction in the sick, whose resisting powers are always lowered and weakened. Apart from the actual damage that may be inflicted on the sick by unnecessary noise we must not forget that real pain and anguish follow such disturbance of body processes already disordered.

Every thoughtful person knows of course that the body, sick or well, does react to noise; hence the value of the scientific measurement of the influence of sounds on the human body lies in giving firm ground for the efforts of municipal authorities to protect the sick from unnecessary noise.

All are familiar with the custom in the family when any member of the household is ill. We tread softly, close doors lightly, talk in subdued tones. The well feel any sound more keenly than usual when in the sick-room for they suffer vicariously from what they instinctively feel must hurt the sick one. When we know there is sickness in a house near us, even if the occupants are strangers, we do not open our mufflers, blow our horns or shout to friends we may catch sight of.

Why then have we been so slow to appreciate the mercy of quiet zones about those houses where there is always sickness, the hotels of the ill, the hospitals. It is surely not because we do not care whether we wound those already wounded. It is because we do not think. If anything makes us aware that we are in the vicinity of suffering we feel sorry that we have made any unnecessary noise.

It is an instinct almost universal to preserve quiet in the presence of the dead. Inasmuch as nothing but Gabriel's trumpet can in the least disturb those who have left their earthly habitations, it is for the living that we are showing consideration on such occasions.

If we make use of the natural instinct within us we may, by establishing quiet zones about hospitals, very much reduce the suffering that arises from wholly unnecessary noise.

In many other large cities white lettered blue signs are placed on the streets surrounding hospitals, directing attention to the presence of the hospital and its suffering guests. It is probable that in the great majority of instances the signs suffice and that the police seldom have occasion to invoke the aid of the courts.

The enforcement of the ordinance in St. Louis is vested in the Director of the Department of Streets and Sewers who has responded to the requests thus far made by private hospitals, and we are assured he would welcome a more general cooperation from those institutions.

THE BIOLOGISTS AT ST. LOUIS

The American Association of Anatomists and the Federation of American Societies for Experimental Biology, comprising the American Physiological Society, the American Society of Biological Chemists, the American Society for Pharmacology and Experimental Therapeutics and the American Society for Experimental Pathology, held their annual meetings in St. Louis on Monday, Tuesday and Wednesday, December 28-30, as the guests of the Washington University Medical School.

The scientific program contained about one hundred and eighty titles. Addresses were delivered in memory of Dr. S. Wier Mitchell and of Dr. Charles S. Minot. The councils of the societies and the executive committee of the federation held their business sessions on the evening of December 27.

In accordance with the custom established some years ago, the local members of the societies abstained from all private entertainment and subscription dinners were held each evening during the course of the meetings, two at the Hotel Jefferson, one at the Hotel Warwick. These were followed by smokers given by the local committee on arrangements. On Wednesday afternoon an excursion of the city was

made in automobiles. Stops long enough to permit of tours of inspection were made at Washington University and at the affiliated hospitals, the Barnes and St. Louis Children's.

About two hundred visitors were in attendance. Perhaps the most important business transacted during the session was in relation to the business conduct of the *American Journal of Physiology*. This journal, which since 1898 has been edited so successfully and at such a great sacrifice on his part by Dr. W. T. Porter, becomes by virtue of action taken at this meeting the official organ of the American Physiological Society, by which it is owned and managed. The management of the journal is now vested in the Council of the society, which has been so reorganized as to insure for the journal the stability of policy that is essential to the success of a publication of such a character.

The following resolution was adopted unanimously by the federation:

WHEREAS, Various of the European nations with which many of our members are related by birth, descent, or intellectual friendship, are now at war.

Resolved, That we extend to the scientific men within these nations the hope of an early and enduring peace, which will leave the nations with no permanent cause of rancour toward each other and which will insure to each the glories of scientific and humanitarian achievement in accordance with its own conception of these ideals.

BEWARE THE SECRET FORMULA— "VENARSEN" IN THAT CLASS

It is not only the right but the duty of physicians to know the essential composition of what they prescribe; a physician who uses a remedy the composition of which is kept secret, even in part, is not doing his duty to his profession nor to his patient. It is almost criminal for physicians to use a preparation of secret composition and to administer it by intravenous injection—a method which in itself is altogether likely to give rise to accidents. Lest physicians be led unwittingly to place their professional reputation in jeopardy, we feel it our duty to point out that "Venarsen" marketed by the Intravenous Products Co. for the treatment of syphilis, pellagra, tuberculosis, anemia, etc., is such a secret preparation. One circular suggests that "Venarsen" is a sort of an improved salvarsan—a mighty strong assumption—but in reality, as the following quotation shows, it gives no clew whatever as to the real character of the preparation:

"Venarsen is a comparatively non-toxic organic arsenic compound, 0.6 gm. representing 247 mg. (3¾ gr.) of metallic arsenic."

"Venarsen is characterized by lower toxicity and greater spirochaetocidal power than other known arsenic compounds."

On the other hand the following quotation from a circular is perhaps nearer the truth for it suggests that "Venarsen" is a shot-gun mixture of an assortment of remedies:

"... Venarsen is a new compound containing arsenic, mercury and other anti-syphilitic drugs ..."

As was to be expected, an inquiry sent to the Council on Pharmacy and Chemistry of the American Medical Association brought the reply that the Intravenous Products Company had not requested the examination of "Venarsen" or any other product of its manufacture.

EXCURSION TO SAN FRANCISCO FOR THE A. M. A. MEETING

Special trains are being planned for carrying members to attend the annual session of the A. M. A. at San Francisco, June 21-26, and inquiries from a number of Missouri members prompt us to invite all those who expect to attend the session to communicate with the State Association secretary now so that plans may be completed to carry our members in a body. There will be a diversity of routes going and returning. The round trip railroad fare will be \$57.50. All railroads will provide for a free trip from San Francisco or Los Angeles to the San Diego Exposition. We invite also an expression of preference for the going route from St. Louis and Kansas City.

Dr. Herbert C. Moffitt, 240 Stockton St., San Francisco, is chairman, and Dr. Sol. Hyman, Butler Bldg., San Francisco, secretary of the local committee of arrangements.

The general session of the meeting which will be open to the public, will be held in one of the downtown theaters, but all the scientific sessions, section meetings, commercial and scientific exhibits will be held in the auditorium at the Civic Center.

Wednesday, June 23, has been set aside as a memorial day or public health day to commemorate the work of the various scientists living and dead that led to the possibility of "digging the ditch."

THOMPSON MALTED FOOD COMPANY

"HEMO"

In our November issue we published an abstract of the exposure of the Thompson Malted Food Company that appeared in *The Journal of the American Medical Association* for Oct. 24, 1914. This company markets a product they call "Hemo" that "builds up weak stomachs." Incidental to the effort to induce phy-

sicians to strengthen their patients' stomachs by prescribing Hemo the representatives sought to operate on the weak wills of gullible doctors by selling stock in the concern. They have recently been in Missouri but in one town at least they found no victims among our members who had read the exposure.

Now we receive a letter from the company asking for information about our annual meeting so that one of their representatives could appear and give a "personal demonstration." It is quite certain there will be no personal demonstration by anybody at the St. Joseph session and it is equally certain that "Hemo" will not be shown in the exhibit hall nor any stock-selling solicitor allowed to separate the members from their rolls.

THE HONOR ROLL

Madison County Medical Society earns the distinction of being the first to pay the state assessment for every member for 1915. The president of the society is Dr. William Nifong, Fredericktown, and the secretary is Dr. S. C. Slaughter. His report shows only two eligible physicians in the county not now members.

Two societies failed to secure a place in the roll by the non-payment of one member in each society. Of course, these members will pay soon and doubtless their societies will be in the roll next month.

POCKET CARDS

Members will find a pocket card inclosed with their certificates of membership for 1915. This is issued by the State Medical Association and will be an annual feature hereafter. This card should be carried constantly as it establishes the good standing of the member in the organization at all times. It should be presented also at the annual meeting in St. Joseph when registering attendance there.

OBITUARY

F. ROBERT BOYD, M.D.

Dr. F. Robert Boyd of St. Louis, died suddenly at his home January 2, from paralysis, aged 64. He had been ill for about ten days. He was a graduate of the Ohio College of Physicians and Surgeons, 1886, a member of the St. Louis Medical Society, the Missouri State Medical Association and a Fellow of the American Medical Association.

WARREN M. CAMPBELL, M.D.

Dr. Warren M. Campbell, Kansas City, one of the oldest practitioners in the state, died at his home November 28, aged 87. He graduated from the Cincinnati College of Medicine and Surgery in 1872, but had practiced many years before taking his medical degree.

NEWS NOTES

THE Medical Society of the City Hospital Alumni held their annual banquet at the Washington Hotel, St. Louis, January 6.

DR. O. H. BROWN AND DR. E. P. BUDDY of St. Louis, spoke at a public meeting at Leslie conducted by the Gasconade-Maries-Osage County Medical Society.

DR. LEO LOEB, Pathologist of the Barnard Free Skin and Cancer Hospital, St. Louis, will sever his connection with the institution, his resignation to take effect April 1, 1915.

DR. J. J. HOUWINK of St. Louis, has been appointed Consul for the Netherlands. He is a native of Amsterdam and has practiced medicine in St. Louis for twelve years.

DR. STEPHEN D. REYNOLDS of Gower, has been appointed assistant physician at State Hospital No. 3, Nevada, to fill the vacancy caused by the death of Dr. C. B. Simcoe.

DR. M. A. BLISS was severely injured on January 6. While attempting to cross the street he was knocked down by a motor cycle. He was rendered unconscious but is recovering.

THE meetings of the American Anatomical Association were held on December 28, 29 and 30, at the Washington University Medical School. Dr. Huber was reelected president.

DR. GEORGE A. NASH of Maryville, who was believed to be in a critical condition several weeks ago is reported on the road to recovery after undergoing an operation for appendicitis.

DR. T. A. COFFELT AND DR. S. A. JOHNSON of Springfield, delivered addresses to the citizens of Lebanon on public health topics at a

public meeting in that city on December 14, held under the auspices of the Laclede County Medical Society.

AN "unknown donor" has given "\$100 a month in perpetuity" toward the maintenance of the new country department at Valley Park of the St. Louis Children's Hospital, the buildings of which are nearly completed.

DR. GRAHAM LUSK of New York, delivered a series of two lectures on December 31 and January 2, before the Washington University Medical School. The subjects were "The Basis of Animal Calorimetry" and "Metabolism in Diabetes."

MRS. MARTHA E. GOODIER, mother of former President Dr. Robert H. Goodier, died at Louisville, Ky., Saturday, December 26, aged 84. Dr. Goodier was with his mother at her death and accompanied the remains to Monroe City for interment.

DR. W. H. HAYS of Hannibal, was severely injured last month by the accidental discharge of a gun carried by his companion while on a hunt on Bay Island. The charge entered his right leg just above the ankle. He was taken to the Levering Hospital, Hannibal. At last reports he was progressing toward recovery with no immediate indication of the loss of his leg.

THE meetings of the Federation for Experimental Biology were held on December 28, 29 and 30, under the auspices of the Washington University Medical School. Three joint sessions and two separate sessions of the four component societies were held. On the afternoon of the thirtieth an automobile tour of the city was made and the new buildings of the Barnes and the St. Louis Children's Hospitals were inspected.

THE officers of the St. Louis Medical Society were installed at the annual meeting January 2. At this meeting announcement was made that the bequest of Mrs. Franzisca Bartscher amounting to \$42,813.39 had been turned over to the Society by the trustee. The auditorium has been dedicated the "Hugo W. Bartscher Memorial Hall." An oil portrait of Dr. Bartscher by Waldeck, was exhibited and will be hung on the walls.

DURING December the following articles have been accepted by the Council on Pharmacy and

Chemistry for inclusion with New and Non-official Remedies:

Merck and Co.: Arbutin, Merck; Benzene, Merck H. P., Crystallizable; Digitoxin, Merck; Silver Citrate; Silver Lactate.

E. R. Squibb and Sons: Pyocyaneus Vaccine: boxes of 2 ampules containing respectively 100 and 500 million killed bacilli.

WITH this issue we present the advertisement of W. B. Saunders Company and invite the members to note their announcement on the front cover. This firm needs no introduction to our members but their adoption of our Journal as one of the mediums for announcing their publications deserves mention here.—Another new advertiser invites your attention to his facilities for serving the profession in laboratory work. We refer to the announcement of Dr. W. T. McDougall of Kansas City, Kan.—Mineral Wells, Texas, and Still Rock Spa have taken space in our advertising pages and offer their facilities for accommodating those who might be benefited by a visit to these points.

IN January, 1914, information was received that a St. Louis, Mo., concern, operating under the name of "The Piorkowski Laboratories," was selling so-called turtle tuberculin in interstate traffic without having a license, as required by the act of Congress of July 1, 1902, regulating the sale of viruses, serums, etc. Evidence to this effect was collected, and a criminal information filed under the direction of the Solicitor of the Treasury in the district court at St. Louis, Mo., against Leslie A. Knight, the party using the name "The Piorkowski Laboratories." On Nov. 27, 1914, the defendant pleaded guilty to having made a shipment of so-called turtle tuberculin in violation of the law, and was fined \$100 and costs.—*U. S. Public Health Reports.*

MEMBERSHIP CHANGES, DECEMBER

NEW MEMBERS

Roy M. Cater, Marceline.
Frank G. Beard, St. Joseph.
John F. Dodson, Kirksville.
George C. Droll, Kansas City.
H. Lee Farris, St. Louis.
Edward A. Gummig, St. Joseph.
Julius Kangisser, St. Joseph.
James A. Melton, Aurora.
Eugene A. Miller, St. Joseph.
Ulysses G. McElvain, Kansas City.
Harvey E. Moss, Kansas City.
Roy J. Owens, Mill Spring.
Collis I. Roundy, St. Joseph.

Samuel D. Senor, St. Joseph.
F. Henry Raab, Kansas City.
James W. Winn, Higbee.

DROPPED OR RESIGNED

S. F. Carpenter, St. Joseph.
Albert O'Bannon, Princetown, Fla.
John F. Wagner, Greenville.

DECEASED

John B. Brierly, Gunn City.
Robert M. Irwin, Gretna.
J. McB. Johnson, West Plains.

CHANGE OF ADDRESSES

J. J. Carter, Kansas City to Los Angeles, Cal.
Wm. L. Davis, Elmira to Polo.
Frank D. Gorham, St. Louis to Clover Dale, Ind.
Joel W. Hardesty, St. Louis to Herculanum.
Thos. S. Hawley, St. Louis to Fall River, Kan.
D. M. Huffman, Springfield to Crane.
Robert Q. Kelly, Versailles to California, Mo.
Stetella F. Fairchild, St. Louis to Fall River, Kan.
W. B. Heryford, Maryville to Wilcox.
B. F. Jones, Caruthersville to Brownwood.
Ernst Mitchell, St. Louis to Licking.
Amalie M. Napier, Ancon, Canal Zone to St. Louis.
A. C. Pettijohn, St. Joseph to Brookfield.
S. D. Reynolds, Gower to Nevada.
J. C. Roberts, Boynton to Stamps, Ark.
Louise F. Stewart, Gower to Stewartville.
A. L. Stadtherr, St. Louis to Reno, Nev.
J. Louis Swartz, Clayton to St. Louis.
W. R. Terrell, Bland to Vienna.
James H. Tinsley, Orla to Bois D'Arc.

MISCELLANY

OUR MEMBERSHIP

In view of the relation of the Jackson County Medical Society to the State and American Medical Associations, and the added fact that in Kansas City and Jackson County there are a large number of legally qualified practitioners of medicine not in affiliation with us, it is intimated that our membership committee should become active and endeavor to bring into membership those who are eligible.

It is very apparent to many in the society that there is a score or more of men without our ranks who should join. And many of these have been urged to do so. Some of them have not been sufficiently urged or give very insufficient excuses. Some are not members for personal reasons; others are indifferent, or with their varied interests claim to be too busy.

It goes without saying that Kansas City to-day possesses a large group of men whose methods of practice and principles of ethics have not conformed

with those required by the Jackson County Medical Society. But with such methods they have acquired wealth and independence. Now they are desirous of affiliation with cultured and scientific men, and long for the prestige which membership in a representative county society only can give.

Another group have failed utterly by advertising and quack methods. They too, long for the protection and assistance of the organized profession. But their habits are quite largely formed and the question of their value to the society is not without gravity; and who can vouch for their motive?

However, every regular member of this society knows of some one or more physicians among his acquaintance who is eligible, who needs the assistance the society will give to him, and whose connection would be of value to us. It is the duty not only of the membership committee but of every member to take application blanks and do his part in securing new names and proposing same for membership to our society. Let January 1st see a great increase and strengthening of the Jackson County Medical Society membership!—*Bulletin Jackson County Medical Society.*

THE BARNES HOSPITAL OF ST. LOUIS

On Dec. 7, 1914, the Barnes Hospital at St. Louis was opened. The buildings are located on Kings-highway and adjacent to the buildings of the Washington University Medical School, with which it is affiliated. The situation is an ideal one for hospital purposes, as the buildings overlook Forest Park on two sides and are thus insured a permanent supply of light and fresh air.



ROBERT A. BARNES

The hospital is built on the pavilion plan and each building contains three stories and a basement. In the center there is a large administration building, from which corridors lead from either side to the medical and surgical ward buildings. Each of these ward buildings contains a large ward on each floor, 30 by 100 feet, with service rooms, open air porches,

laboratories, and a series of small rooms for individual patients attached. In the basement of the building devoted to the medical wards there is an elaborate department for mechano- and hydro-therapeutics. Various types of electric, Nauheim, steam and continuous baths are provided. The surgical and medical ward buildings will each accommodate about 100 patients.

The first floor of the administration building contains offices for the administrative, social service and chiefs of staff of the medical and surgical departments, and a suite for the admission of patients. This is provided with two emergency operating rooms, one of which has a heated "shock table," and a small ward to which patients are temporarily admitted before assignment to a regular ward. On the second floor are located the living quarters for the house staff and the Roentgen-ray and photographic departments. There is also a metabolism ward equipped with calorimeter, chemical laboratory, and special diet kitchen, for the care and study of metabolic diseases.

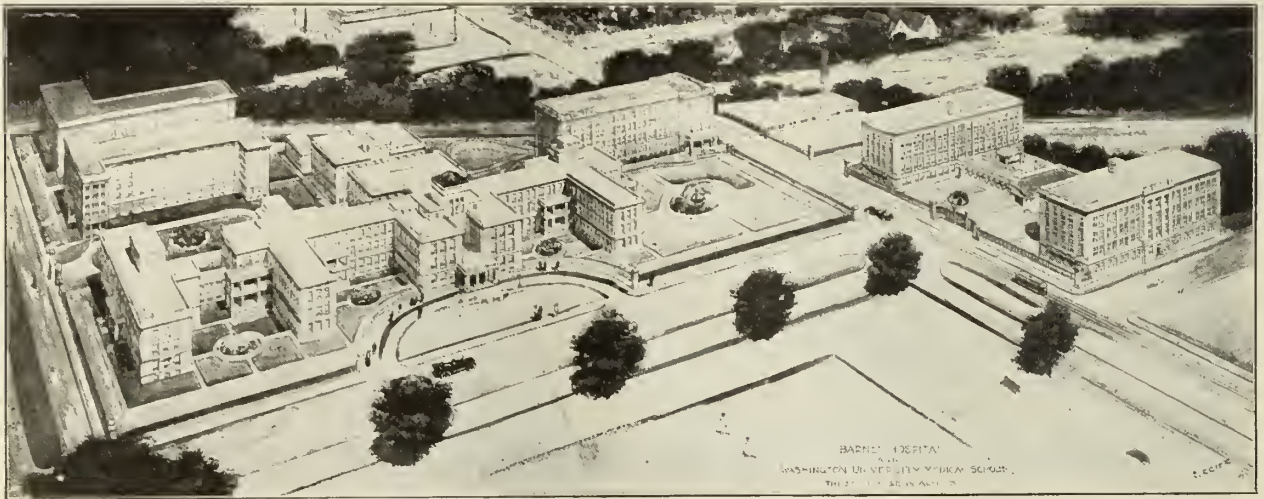
The third floor contains the operating unit, where all operations on patients in the Barnes and St. Louis Children's Hospitals* are performed. There are four

The hospital is connected by a corridor with the clinic building of the medical school, which contains the Washington University Dispensary and the outpatient department of the Barnes and St. Louis Children's Hospitals. There is also a corridor connecting the hospital with the pathological department of the medical school, which contains a mortuary and chapel.

Heat, light and brine refrigeration are furnished by the power plant of the medical school, which is located across the street. The equipment of the hospital is the most modern that could be obtained. Special features are the bed-side light signals, which can only be extinguished by the nurse after the call is answered; galvanometer leads to all wards and the operating rooms; indirect lighting throughout, etc.

At the present time wards for thirty colored patients have been made in two residential buildings located on the hospital property. Plans are under way for a ward building for colored patients west of the laundry building.

The nursing is furnished by the Washington University Training School for Nurses, which will eventually occupy a special building adjacent to the hospital proper.



BARNES HOSPITAL

operating rooms, with adjacent sterilizing and wash-rooms. The operating rooms are lined with white Cararra glass and the floors are of marble laid in mosaic. All of the rooms have a natural north light and especial attention has been given to the artificial lighting. There is a small surgical amphitheater connected with one of the operating rooms, with a seating capacity of 11, and there is also a medical amphitheater, seating 200, on this floor.

The corridor connecting the surgical pavilion with the administration building is continued to a building for private patients, which contains forty-two rooms, many of which have a private bath. In the basement of this building there is a diet kitchen, under the supervision of a trained dietitian, where meals for the private patients are prepared.

In the rear of the administration building there is a large service building, with kitchens from which food is supplied to all the wards, dining-rooms for nurses and house staff, and living-quarters for nurses. Separate from this is a laundry building equipped with modern machinery and also containing living-quarters for help.

* A description of the St. Louis Children's Hospital was published in our December, 1914, issue.

Under an agreement between the Barnes Hospital and Washington University, all the patients in the Barnes Hospital are cared for by members of the faculty of the Washington University Medical School, who are nominated by the university under regulations established by the trustees of the Barnes Hospital.

The hospital cost \$1,200,000 and is the largest and most efficiently equipped hospital in the West. It was made possible through the will of the late Robert A. Barnes and the faithful work and foresight of the trustees who administered his endowment.

The amount set aside in Mr. Barnes' will for erecting and equipping the hospital was only \$100,000, but he gave \$850,000 as an endowment. The trustees, realizing that a hospital such as Mr. Barnes had wished could not be erected with \$100,000, took advantage of a provision in the will which stated that the surplus income from the endowment fund could be added to the building fund and they allowed the income to accumulate by sound investments, so that \$1,100,000 was added to the hospital fund, and the endowment fund at the same time increased from \$850,000 to \$950,000. The hospital is under the direction of the Southern Methodist Episcopal Church.

POLITICS AND STATE HOSPITALS

Dr. Scrutchfield's Letter

In the letter from Superintendent Scrutchfield of State Hospital No. 4, which appears on this page, there is a passage which ought to command the attention of every thinking man in Missouri. According to this experienced and capable official, his own appointment was made under a system which is wrong in principle and harmful in practice. With such testimony can anybody doubt the fact?

The *Republic* does not doubt it. The state hospitals ought to be taken out of the arena of politics and their officials ought to be chosen for merit alone. When chosen they ought to stay in their positions just as long as their work is efficient and the unfortunate people over whom they exercise almost unlimited authority ought to have the benefit of the prolonged experience and freedom of action among hospital officials which will result from the merit system.

The arguments in support of this position have, as Dr. Scrutchfield intimates, been stated and restated many times. Everyone who pays the least attention to public questions is familiar with them and there is strong evidence showing that great masses of the people have been convinced by them. The adoption of the present charter by the people of St. Louis, with its strong provisions governing appointment and tenure of office by the standards of merit and efficiency, bears out this assertion.

The people are entirely ready for the change from the political to the merit system in the state hospitals. The medical profession and all of those who have studied the management of charitable institutions have long been convinced that politics and institutional management do not mix. It remains for our politicians and legislators to come to the same conclusion. They will not remain in the minority long if they expect to remain in politics.—Editorial, *St. Louis Republic*.

The letter from Dr. Scrutchfield follows:

To the Editor of the Republic:—The splendid page write-up given State Hospital No. 4 in yesterday's edition of the *Sunday Republic* by Messrs. Love and Chapin should prove interesting reading for all the citizens of our commonwealth. These two clever gentlemen, by their pens, have no doubt given some people of our state an insight into institution life that they perhaps would otherwise never have gotten. I am of the opinion that the more of such publicity these institutions can get, the more that is known of what is actually being done in them, and of what is being done through them for afflicted humanity, in conserving and returning the toilers to their state, then the easier it will be for these institutions to get from the state legislatures such financial aid and assistance as is necessary to carry on the great philanthropic and humanitarian work for which they were originally built.

In this write-up Mr. Love said something about politics. I am of the opinion, and so expressed myself to him, that the day is not far distant when these state hospitals for the insane and other state institutions would no longer be considered political plums and political assets for the party which happened to be in power. In the past these institutions have been so used by all parties, regardless of the ultimate consequences. As a beneficiary under this system and usage I have no hesitancy in frankly admitting that this system, as practiced in Missouri, is entirely wrong; and that it is a handicap to the proper growth and development of these institutions. I believe that

in managing and conducting a state institution, efficiency—efficiency of the broad-gauged type that will stand the calcium light and produce results—should be the prime consideration, to the absolute exclusion of everything else. Many charitable organizations of our state have resolved and re-resolved the same ideas and views as I herein express, but it yet remains for the public press to call sufficient attention to these matters; and when Missourians see that improvement, marked improvement, can be made in the way of handling our state institutions, then they will be neither slow nor uncertain in asking for it.

It appears to me that the *St. Louis Republic* of late is getting into closer touch with Missouri people, Missouri problems and Missouri institutions than has ever been done before, either by it or by any other paper. Hence our excuse for seeking its columns and its counsel.

G. E. SCRUTCHFIELD, M.D.
Superintendent State Hospital No. 4, Farmington, Mo.

REMEDIES FOR INDIGESTION MUST BE PROPERLY PREPARED AND SOLD WHILE FRESH

WASHINGTON, D. C.

The Service and Regulatory Announcements of the Bureau of Chemistry, U. S. Department of Agriculture, state that examination of a number of products which purport to contain certain enzymes or ferments supposed to be useful in promoting digestion shows that these contain little if any of these active agents. Further investigation shows that the manufacturers frequently have employed a sufficient quantity of pepsin, diastase, pancreatin, trypsin, or similar material, but in many cases no attempt has been made to determine whether the material used is really active. In certain cases, manufacturers have combined pepsin and trypsin, which tend to negative each other, and in other cases they have used the pepsin in alkaline media, which destroy activity, and have combined trypsin with acid substances, which are not suited to it. Under certain methods of preparing the remedies, heat is applied to a degree that may destroy the activity of the pepsin or other enzymes. Similarly, many of these substances which owe their properties to the action of enzymes are put up in too strong alcoholic solutions or in other ways which lessen their effectiveness.

The great trouble with many of these preparations, however, is that they do not keep well, and while active at first, after a time lose their digestive activity. The Department of Agriculture therefore warns manufacturers that preparations claiming to contain digestive enzymes should be put up in such a way that they will have suffered little if any loss of activity when sold to the consumer.

In the case of preparations which are liable to deterioration within a few months, the department suggests that each lot should be dated, and that sales after a certain fixed time should be prevented.

SALICYLIC ACID COMPOUNDS

The essential action of compounds containing the salicyl radicle is so nearly identical that the choice of one compound or another for internal administration must be determined by the convenience of administration and the avoidance of disagreeable side effects of which the most important is the irritating action of salicylic acid and sodium salicylate on the stomach and intestines. Most of the synthetic combinations

of salicylic acid are formed with a view to secure a compound that will pass the stomach unchanged and be broken up in the intestine with the liberation of salicylic acid. A familiar example of this is seen in phenyl salicylate or salol which forms in the intestine a salicylate and phenol. Methyl salicylate undergoes a similar change yielding a salicylate and methyl alcohol. As the yield of methyl alcohol is only about 10 per cent., no danger of poisonous action arises from the small amount of methyl alcohol formed. Ethyl salicylate yields ethyl alcohol in larger proportion, but as ethyl alcohol is less poisonous than methyl the claim of diminished toxicity is made for ethyl salicylate. Guaiacol salicylate yields guaiacol by a similar transformation.

Aspirin, diaspirin, benzosalin, diposal and novaspirin are compounds which have a more complex structure than the simple esters mentioned above; nevertheless they unite in the property of passing the stomach unchanged and after absorption from the intestine produce salicyl effects. In most cases these compounds have been made with therapeutically indifferent radicles like that of acetic acid, succinic acid, or in the case of methyl, benzoyl salicylate and diposal with radicles which have the same or essentially the same action as salicylic acid itself. In other cases the radicle with which the salicyl radicle is combined has more pronounced pharmacologic properties so that it determines the therapeutic value of the compound to which the salicyl radicle may be simply synergistic.

When salicylic acid medication is indicated in general a preparation should be chosen that avoids injurious action on the stomach and after absorption develops only the therapeutic action of salicylic acid. If another action is desirable at the same time it may be easily secured by making separate prescriptions. In this the desired dose of each agent can be secured and can be changed at will, which cannot be done if both are combined in fixed proportions in a single compound.

The proprietary salicylic acid compounds (see New and Nonofficial Remedies) may be classified as follows:

SIMPLE ESTERS

Sal Ethyl, Ethyl Salicylate, $C_6H_4OH.CO.O (C_2H_5)$.

Mesotan, Methyl-oxy-Methyl Salicylate, $C_6H_4OH.CO.O (CH_2.O.CH_3)$.

Guaiacol-Salol, Guaiacol Salicylate, $C_6H_4.OH.CO.O (C_6H_4.OCH_3)$.

Spirosal, Monoglycol Salicylate, $C_6H_4.OH.CO.O (CH_2.CH_2.OH)$.

Betol, Naphthyl Salicylate, $C_6H_4.OH.CO.O (C_{10}H_7)$.

Saloquinin, Quinin Salicylate, $C_6H_4.OH.CO.O (C_{20}H_{23}N_2O)$.

Saloquinin Salicylate, $C_6H_4.OH.CO.O (C_{20}H_{23}N_2O) CO.OH$.

Salipyrin, Antipyrin Salicylate, $C_{11}H_{12}N_2O.C_6H_4.OH.CO.OH$.

Saliformin, Hexamethylenamin Salicylate, $(CH_2)_6N.C_6H_4.OH.CO.OH$.

Phenocoll Salicylate, $C_6H_4.OC_2H_5.NH.CH_2NH_2.CO).C_6H_4.OH.CO.OH$.

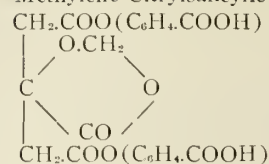
COMBINATIONS WITH ACID RADICLES

Diposal, Salicyl-Salicylic Acid, $OH.C_6H_4.COOC_6H_4.CO.OH$.

Aspirin, Acetyl-Salicylic Acid, $C_6H_4.OCH_3.COCO.OH$.

Diaspirin, Succinyl-Disalicylic Acid, $HOOC.C_6H_4.O(COCH_2.CH_2.CO)OC_6H_4.CO.OH$.

Novaspirin, Methylene-Citrylsalicylic Acid,



ST. LOUIS CHILDREN'S HOSPITAL

New Buildings Open for Reception of Patients Largest of Its Kind in the United States

On December 1 the new buildings of the St. Louis Children's Hospital at 500 South Kingshighway were opened for the reception of patients. The group of buildings which were designed by Mauran, Russell & Crowell harmonize with those of the adjacent Barnes Hospital group, and the buildings of the Washington University Medical School with which the hospital is affiliated. As a result of a working association with these two institutions it has been possible to devote the Children's Hospital buildings entirely to the care of patients and thus accommodate twice as many children as could have been done otherwise with the same expenditure of money. The hospital corporation, however, remains a distinct entity and in finances, management, etc., has no connection with the other institutions. Heat, light, power and refrigeration are obtained from the power plant of the Medical School and the nursing is a part of the regular training of the nurses of the Washington University Training School for Nurses. All food for patients and the staff is supplied from the kitchens of the Barnes Hospital at cost, and the laundry work is done in their laundry. The out-patient department of the hospital is conducted in the clinic building of the Medical School.

The Children's Hospital consists of three buildings. The main hospital building, which is 88 by 88 feet and five stories in height is known as the Elizabeth Liggett Memorial. The first floor contains the administration offices and an observation ward made up of a number of small rooms separated by glass partitions where cases may be kept under observation before admission to the larger wards in order to lessen the liability of admitting contagious diseases during the incubation period. The second floor is devoted to medical cases for patients over two years of age and has accommodations for thirty-five children. On this floor but in a separate corridor eight rooms, each large enough for a mother and child, are provided for private patients.

The third floor is for the care of infants and contains forty cribs. It contains a milk laboratory for the preparation of milk mixtures and a ward with bath and ample accommodations for four wet nurses. A special feature is two rooms for high and low constant temperatures. One of these rooms, both of which are heated by fresh air drawn over steam coils, will be used for the care of premature infants; the other, which can be kept at a low temperature by refrigeration, is to be used in the treatment of "heat" cases in summer. Opening from the infant floor, a large open air ward for mothers with babies has been planned on the roof of building "B" which is only two stories in height.

The surgical and orthopedic wards are on the fourth floor and contain thirty-five beds. All operations, excepting those of a minor nature and operations on the nose and throat, will be performed in the operating pavilion of the Barnes Hospital. This is connected with the Children's Hospital by a heated corridor so that there is no exposure of the patient during transportation to and from the operating room.

The second, third and fourth floors have large, screened porches for the open air treatment of disease. The fifth floor contains living quarters for the house staff, offices for the medical director of the hospital, and large laboratories for chemistry, bacteriology and calorimetry.

Building "C," which is 60 by 88 feet, is for the care of contagious diseases. It is 4 stories in height and the first floor is connected with the main building "B." There is no direct connection between this ground floor basement, which contains store rooms, and the upper floors—it being necessary to go outside the building and reach the ward floors by means of an outside stair or elevator. The second floor will be used for patients with diphtheria, the third floor for scarlet fever, and the fourth for measles. The same plan has been followed on each floor and the building will accommodate forty patients. On the second and third floors private rooms with separate entrances have been provided where a limited number of adults with contagious diseases can be accommodated. The third floor also contains a laboratory for the contagious department. On the north side of each floor and separated from the wards by a wide open air corridor is a series of three bedrooms with bath and clean and infected dressing rooms, so arranged that nurses on duty, special nurses, or parents of very sick children, can come and go without danger of carrying contagion. Another feature is an open air gallery on the east side of the ward which is reached by an outside stairway. By means of this gallery the parents of children detained in the hospital by quarantine can see their children through windows without the parents exposing themselves to infection. In this way one of the chief objections on the part of parents to leaving their children in a hospital for contagious diseases has been avoided. The quarantine and isolation rules of the health department of the city will be enforced in the contagious department.

The main building and building "C" are connected by a two-story building containing the lecture hall of the department of pediatrics with a seating capacity of 100. This will also be used for public lectures on subjects connected with infant welfare and social service work. Large store and linen rooms are also located in this building and the second floor contains the private rooms mentioned in the description of the main building.

At the same time the city buildings are opened, new fire-proof buildings accommodating fifty patients will be opened at the country department—Ridge Farm—near Valley Park, twenty miles from the city. Here the chronic orthopedic and surgical cases are treated and convalescent medical cases are sent to recuperate before their discharge.

In all there will be beds for 225 children which makes the hospital the largest general hospital in the United States devoted entirely to the care of sick infants and children. The entire plant has cost in the neighborhood of \$300,000 and the estimated annual budget is \$80,000. Only a small portion of this is obtained from endowment and the larger portion is obtained from individual gifts and yearly subscriptions. The hospital receives neither state nor municipal aid. There are no fixed charges for the care of patients nor medical fees except for patients in the private rooms. The parents of patients are asked to pay what they are able, but no child needing hospital care will be turned away for any reason but lack of accommodation, and patients will be admitted at any hour, day or night. The hospital is non-sectarian both in benefactions and in management. Last year 1,636 cases were admitted to the wards and 5,094 children made a total of 30,211 visits to the various out-patient clinics.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Sixteenth Meeting, Washington University Hospital, November 9, 1914

29. PRESENTATION OF TWO CASES OF TERTIAN MALARIA TREATED WITH NEOSALVARSAN.—By DR. P. C. JEANS

Judging by the literature, one would think very few cases of malaria have been treated with salvarsan or neosalvarsan and in such cases as have been published the treatment has been very satisfactory.

CASE 1.—G. R., aged 15. Headache, malaise with chilly sensations for one month. Definite chills every second day for seventeen days. Examination showed spleen to mid line and tender; definite chill; temperature reaching 105. Three decigrams of neosalvarsan given during a chill, intravenously. No further chills nor subjective symptoms during a period of observation of two months. But the one dose of neosalvarsan given. Rapid disappearance of the splenic tumor. Two weeks after the treatment, spleen 2 cm. below costal margin and one week later not felt. Rapid gain in weight from 96 pounds and 3 ounces at time of treatment to 105 pounds and 8 ounces three and one-half weeks after treatment.

CASE 2.—A. R., aged 8. Lassitude for the past month. Chills for two weeks, at first every second day, then every day. Examination showed spleen 1 cm. below costal margin. Chill with temperature reaching 106. Neosalvarsan 3 decigrams given intravenously during chill. No further chills or subjective symptoms for a period of two weeks when there occurred a relapse with daily chills which were allowed to continue for one week. Temperature reached 105. Neosalvarsan 4.5 decigrams given intravenously during a chill. Again the apparent cure. Neosalvarsan 4.5 decigrams repeated in three days. Patient remains well six weeks after the treatment of his relapse. Splenic tumor quickly disappeared at first treatment, reappeared at relapse and again disappeared after second treatment. Gain of 3 pounds in the two weeks after first treatment. Loss of one-half pound during relapse with rapid gain after second treatment.

30. THE ADAPTABILITY OF RATS TO METABOLISM EXPERIMENTS.—By DR. J. L. MORRIS

Rats have shown interesting similarity, to man in lesions due to a typhoid-like organism in a disease closely resembling leprosy and in the presence of tumors. Add to this the large supply of these animals and their quick growth and there would seem to be every reason why metabolism results should be profitable.

By the use of colorimetric methods of analysis it was shown possible to determine in the twenty-four-hour quantity of urine of a single rat not only total nitrogen—constituent before attempted—but also

the fractions of the nitrogen excretion contributed by urea, ammonia, uric acid, creatinin and creatin.

Comparison of the percentages of these constituents with the percentages of the same in the average normal man shows great similarity. The main differences are in a lower urea percentage due to a higher undetermined nitrogen fraction, and a higher ammonia percentage. The latter is in accord with the finding of larger relative quantities of ammonia in children due to smaller bodies and relatively larger surfaces.

Further comparison of excretion of rat and man on the basis of ratios to unit body weight shows as many kinds of differences as there are constituents. Because of the great difference in the size of the two this is probably the most emphatic evidence yet found for a belief that the kinds of metabolism represented by the various products are to a considerable degree distinct.

Preliminary experiments to determine the effect of tumors, Roentgen-ray and radium (deposited activity) upon the metabolism of normal rats and of the Roentgen-ray and radium on tumor-bearing rats have shown that there are changes of sufficient size to be easily followed by the chemical methods of analysis. More work is necessary to give these any definite interpretation.

31. INCRUSTED CYSTITIS.—By DR. JOHN R. CAULK

The author reports an interesting case of a recurrent incrustated cystitis occurring in an alkaline urine in a patient who had been operated on both suprapubically and transurethrally many times, and proposes a simple treatment of injection of Bulgarian bacilli directly into the bladder for such cases.

Patient, a young woman, had suffered since the birth of her last child four years ago with very frequent urination, hematuria and the passage of calcareous material in the urine, marked loss of weight and anemia. There had been a previous suprapubic operation for supposed tumor of the bladder. No relief of her condition followed the operation. She presented herself at the Washington University Hospital, May, 1913. General examination was negative, excepting the anemia. Her urine was very bloody, alkaline, containing pus, blood, calcareous debris and proteus bacilli. Bladder capacity 150 c.c. Cystoscope showed a general intense acute cystitis. Over the trigone and bladder base were seven irregular projections, covered with a silvery white deposit, with irregular surfaces which were downy. They were fixed to the bladder wall, and only the superficial downy part could be moved about. Around the base of the tumor was an intense hyperemia with bleeding spots. There was an annular band of the incrustated material around the internal orifice of the bladder; neither ureteral orifices visible. Urine negative for tubercle bacilli. It was thought that the disease was "incrustated bladder tumor." Repeated local treatments with many high-frequency sparks produced no improvement. A specimen of the tumor-like mass removed with an operative cystoscope and examined pathologically showed it to be composed of two zones: an upper zone of necrotic tissue, in which were imbedded masses of calcareous material; beneath this zone, a zone of granulation tissue. The squamous epithelium of the bladder persisted in places and there were several villous-like masses also present. Diagnosed: chronic ulcerated cystitis with calcareous deposits.

June 14, suprapubic cystotomy. Bladder was thoroughly curetted and tumors excised with knife and scissors, and the whole interior of the bladder sparked

with high frequency. Closed, catheter drainage through urethra. Within two weeks cystoscope showed same picture as before: a recurrence of the tumor-like masses and incrustations. She was then curetted through the urethra many times and a few days after the curettage the same picture had recurred. Examination of the material showed it to be composed of calcium phosphate, triple phosphates and ammonium urate. We attempted then to acidify the urine with acid-producing organisms and used for this purpose the Bulgarian tablets prepared by Hynson & Westcott of Baltimore. The improvement was almost immediate. Injections of four of the Bulgarian tablets were given daily, for about ten days. Six days after the beginning the treatment, cystoscope showed that the tumors had disappeared and in their places there were multiple ulcers. She gradually improved, ulcers healed and now at the end of nine months she has been perfectly well without any further trouble.

The author takes up the pathogenesis of an incrustated cystitis, arrives at no definite conclusions, but believes infection, necrosis and supersaturation are the important factors. There are two types of incrustated cystitis: the flat and the tumor-like. They are more commonly located around the trigone and internal orifice of the bladder.

Important stress is laid on the diagnosis of these tumors, most important of which is that the downy material shows no villous-like projections. They are accompanied with a marked cystitis, most important that by acidifying the urine these tumor masses disappear and leave ulcers in their places.

The various forms of treatment are discussed, such as suprapubic removal and intravesicular curettings, none being satisfactory and he proposes the injection of an acid-producing organism, such as the Bulgarian bacillus, in order to change the chemical constituency of the urine, and believes that this is the most satisfactory procedure.

32. OBSERVATIONS ON A CASE OF TOTAL DIABETES.—By DR. P. A. SHAFFER

Results were presented of metabolism experiments extending over forty days upon a man aged 20 years, a patient in the medical service of the University Hospital, who had almost or wholly lost the power to catabolize carbohydrates. During the first ten days more glucose was excreted than could be accounted for in the carbohydrate of food and in the protein catabolized, indicating an instance either of the formation of sugar from fat or the formation of more than the supposed maximum, 3.6 gm. of sugar from 6.25 gm. of protein.

Special day and night nurses were then provided, and in the following thirty days, during which at times his condition both clinically and chemically was more severe, there was no clear evidence of an extra production of sugar above that formed from food carbohydrate plus 3.6 gm. for each gram of nitrogen catabolized. It was therefore concluded that the early results indicating formation of sugar from fat were accidental, due in part at least to deception on the part of the patient as to food. It is probable that many similar observations have a like explanation. The following points are well illustrated by the results obtained:

With an inability to oxidize glucose the degree of acidosis is at least in some severe cases related to the amount of protein catabolized. With a decrease in the amount of protein in the food, which resulted in a fall of the urine total nitrogen from 21 to 4.9 gm.,

the total oxybutyric acid fell from 120 to 22 gm. In such cases protein must be looked on as an important, though not the only, source of oxybutyric acid. The amount of food protein should be reduced in severe acidosis. There was no marked difference in the behavior of the starch of wheat, oats or corn. The carbohydrate of cabbage, tomatoes, celery and lettuce, in so far as it is absorbed, appears not to be converted into glucose.

When the urine contained 120 gm. of total oxybutyric acid (acetone, aceto-acetic and oxybutyric acid calculated in terms of the latter), the blood contained 18 mg. of acetone, 10 mg. of aceto-acetic acid and 45 mg. of oxybutyric acid in 100 c.c., and about 3.2 gm. of acetone were excreted by the lungs in twenty-four hours. When the urine contained 41 gm. of oxybutyric acid, the blood contained 11 mg. of acetone, 7 mg. of aceto-acetic acid and 49 mg. of oxybutyric acid per 100 gm., and the exhaled air in twenty-four hours 1.7 gm. of acetone. Such comparative observations have not before been made. The blood sugar ranged from 0.14 per cent. to 0.35 per cent., depending on the amount of carbohydrate in the food.

ST. LOUIS MEDICAL SOCIETY

Meeting of Oct. 26, 1914

Program

Board of Public Service: Its Mission and Relation to the Public Health and Safety of St. Louis.

Abstract of addresses of the mayor and members of the board of public service, delivered at this session:

HON. HENRY W. KIEL, mayor of St. Louis: "When I was invited to attend this meeting I scarcely knew what kind of a meeting it would be. I was told that it would be a meeting of physicians and I wondered very much what I might say that would interest physicians, but seeing you all here to-night I am inclined to think that in addition to the practice of medicine you are greatly interested in the welfare and the prosperity of our city, and being its chief executive, for which I am largely indebted to people like you, I felt that it would be a nice thing for me to get out and visit with you and get better acquainted.

"Your organization was very instrumental in helping to pass the charter that your chairman has referred to. I believe the new charter means that St. Louis is to be a much better city; it means that when it becomes thoroughly operative, there will be better opportunities for people to make a livelihood in the city of St. Louis; we will be placed in a position where, as an administration, we can accomplish much more than we could under the former old and antiquated charter. As an example, you have probably heard something of this proposed parkway. It happens that yours is one of the pieces of property that will be eradicated when this parkway is completed, which, no doubt, it will be under the new charter. With a very little amount of red tape we can construct that parkway, and it will extend from Twelfth street to Jefferson avenue, between Market and Chestnut, and from Jefferson avenue to Grand avenue, between Lawton and Pine streets, excepting for the two blocks from Channing avenue west to Grand and will extend as far, practically, as Lindell avenue, making a beautiful drive connection with Lindell boulevard.

"Now that seems when you think about it a very gigantic undertaking, but it means that when a stranger comes to St. Louis, instead of coming out of the Union Station shed and being confronted with a lot of old rookeries, old junk shops and cheap

hotels, the first thing that greets him will be a beautiful parkway with trees and shrubbery and bubbling fountains and monuments of every description, public comfort stations, in fact, everything to attract one's attention. The man or woman who comes here then, instead of going back into that train shed, as 99 out of 100 do now, will be gradually strolling down that beautiful vista and will gradually come on down into town and will be gradually led to our stores and into them, no doubt, and you know that when they leave money here we will all split it up amongst ourselves. That is what we want. We want the impression to go out in the world that St. Louis is a city worth visiting and worth living in, and this new charter makes that thing possible.

"The matters that you gentlemen are interested in probably more than anything else are the eleemosynary institutions, but I am not going to dwell on that to-night only in a general way, because Mr. Tolacz who is director of the board in charge of these institutions is here to speak for himself, and I am told by those who ought to know that he gets along well with the doctors, and if he does we ought all to be satisfied; and if he doesn't I am here to-night to hear any complaints."

Mr. Kiel then explained in great detail the vexing problems that had been encountered in the efforts to complete the free bridge and in conclusion said: "Now what we want is for each to lend a helping hand that we may see St. Louis going to the front, and that is the right and proper spirit to show and you gentlemen can do a great deal to help the administration and St. Louis if it is only by meetings of this kind. It is quite a courtesy that you have extended to the Board of Public Service and myself. It puts us in a position where if we have a matter that we wish to put before you we have no hesitancy in doing so, and this is the kind of thing that brings the administration and people together. It is not a question of politics after a man is elected, it is a question of administration by the people, of doing the greatest amount of good for the people, and if you do that you satisfy the people no matter what their different politics may be."

The next speaker was Mr. Edmond R. Kinsey, president of the Board of Public Service. He said: "I am sure the members of the Board of Public Service feel complimented by being invited here to-night, and yet it is something more than a compliment. We feel that you have a right to ask us to come here and report what we are doing. After all, we are simply working for you, spending your money, doing the best we can to get a dollar's worth of service for each dollar of yours that we spend, and we are really glad to have the opportunity of talking to you for a few minutes and giving you some idea of how it is being spent.

"The mayor referred to the new charter which has recently been adopted, and the adoption of that new charter was immediately followed by his appointment of the Board of Public Service. I, myself, holding an elective position was automatically, under the provisions of the new charter, held over. His appointees, the other members of the board, will address you later. I have come to know that his selections of the members of the Board of Public Service are most excellent, and without any reflection on the other three gentlemen believe that one of the most excellent members is the one under whose care the institutions come in which you are particularly interested.

"The operations of the new charter impose two duties and give two opportunities to the members of the board. The first is the opportunity to do the big things that ought to be done and do them promptly, without the hindrances and red tape that existed

under the old charter; and the next is the opportunity to do the multitude of little things that make for economy. We have the opportunity now of completely reorganizing our methods of doing public work. That complete reorganization requires a very thorough study of details; the time of the members of the board is largely taken up at present with the study of the details of organization, at the same time they have not permitted the detail work to obscure the consideration of other matters such as the mayor has referred to, particularly the parkway.

"The mayor referred to the value of the parkway from an esthetic point of view, and it is not necessary before such a body to make any argument as to its value from a health point of view. The importance of light and air to cities needs no argument. City planners the world over are appreciating that more and more. We are beginning in cities to take advantage of the experience of other large cities; we are beginning to use foresight where they are compelled to use hindsight. For instance, the boulevards of Paris were largely constructed by Haussman by a deliberate tearing out of block after block, mile after mile, regardless of what it meant at a cost of millions. The same action was found necessary in London; where light and air were absolutely essential, streets were cut right through without regard to improvements, and wide spaces opened up as a health measure, not only for the purpose of providing beautiful vistas, but absolutely as a health measure for providing light and air. Washington, D. C., the most beautiful city in the world, I think we will all agree, with the most beautifully laid out streets and parkways and boulevards, owes its beauty to foresight which cost nothing, and they don't have to rely on hindsight at the cost of millions and millions. So with the examples of such cities before us, we are engaged now in developing this parkway, which, at this time, may be done at a comparatively small cost, but as years go by will prove of inestimable value and will be appreciated more and more as centuries go by.

"There is much that the Board of Public Improvements under the former charter did that had some relation to the efforts of the medical profession. That body was largely an engineering board, and had to do with engineering work. Under the new charter, its scope has been largely increased, taking in under its jurisdiction a large range of municipal work. It has under its jurisdiction the building and plumbing, the smoke ordinances and the inspection of weights and measures, etc., and in addition to that the member of the board in charge of public welfare brings under the jurisdiction of the board all the eleemosynary institutions, the board of health and kindred municipal projects, so that under the new charter the Board of Public Service as it now is constituted has control of practically all the administrative part of the government, covering practically every activity of the city government outside of the law department and the financial department. The engineering side of it relates very closely to the medical side, because engineers in municipal work engage very largely in what you might call preventive medicine, the purification of the water supply, the establishment of sewer systems, etc. I am glad to tell you that the city of St. Louis is well in advance in this country in these matters. The engineers of this city have kept pace with the medical profession in being right up to date and a little ahead of date in some cases in respect of work relating to their profession. We all know the advances made by the medical profession of this city. The engineers also claim that they have kept pace with the medical profession in many respects. We have the finest water in the country, unquestionably; St. Louis has

shown the world how to clarify and purify turbid water such as comes to us in this city. In the construction of sewer systems, the St. Louis engineers are in advance of the profession in the rest of the country. I might possibly be encroaching on something that might be told you by Mr. Hooke, who was formerly the sewer commissioner and is now director of public utilities, but it is a fact that the engineers in our sewer department have through original research and investigation been able to show the engineers of the world that former methods of designing and constructing sewers were inferior. The results of the investigations and researches being made in this city are being accepted the world over as an authority."

MR. JAMES A. HOOKE, director Department of Public Utilities: "I really do not know that you will be much interested in utilities with the exception, possibly, of one condition, the water department, and I do not believe as physicians or citizens that I could tell you very much about it, as you use the product every day, but I might tell you something that would interest you in the former work that I was doing before I was appointed director of public utilities. That work I think comes nearer home to the physicians than possibly anything else outside of their own profession, and I might say that it is a part of their work. The old saying that an ounce of prevention is worth a pound of cure is very well illustrated in conducting the sanitary division of a great city.

"I was appointed in that particular department in about 1906, possibly the latter part of 1905. At that time the northern part of our city, especially in the Harlem and Baden valleys, did not have a sewer in it. The creek known as the Harlem Creek drained a territory of approximately 5,000 acres. An open creek carried off all the storm water as well as the sanitary drainage. Farther north the same conditions existed; you could find the same conditions in South St. Louis. The Mill Creek valley had no sewer. The Rock Creek valley was in the same condition. Some of you possibly have been down Gravois Road and noticed the densely populated territory around there. The sewers in that territory have been finished not more than one year. But last, not least, and something I trust you will all take interest in, is the River Des Peres, a water shed of something like 70,000 acres. The majority of this is within the county, that is, something like 54,000 acres. About six or eight months ago the Board of Public Improvements introduced an ordinance which the municipal assembly passed, but as yet we have had no cooperation with St. Louis county. At the city limits and outlying towns, which are gradually growing, you will find that they turn into the city all their sewage, and I believe it would be well worth your efforts as doctors in the prevention of the spreading of disease to see if you could not in some way assist the city, and I might say the present Board of Public Service, to secure some cooperation and get a sanitary district established.

"In the last bond issue that was passed the city had a million and a half dollars for sanitary purposes. A large part of that was spent on the River Des Peres. Unfortunately, the money did not hold out and we have not been able to construct or continue that work any further. We did manage, however, to secure some money and from Union avenue to the city limits we have put a sewer to take care of the dry-weather flow, but there is a stretch in the west part that is in natural conditions and growing worse each day and month. The original scheme for taking care of this valley was rather ambitious, and I presume some day it will be carried out, and in the near future."

MR. CHARLES M. TALBERT, director Department of Streets and Sewers: "I am not sure that we are on the right track in speaking to you of the things that particularly interest you. It might be better to branch off and talk to you about some of the things that you don't know so much about. However, from the fact that I have an axe of my own to grind and something to get from you I am going before I get through to follow the lines of the others.

To start with, the department of streets and sewers under the new charter, as indicated to you by the president of the board and others, has been changed somewhat. Originally, the department had everything to do with the construction and maintenance of the streets. Under the new charter, only the maintenance is in this department, and all construction work is delegated to the president of the board as part of his duty.

"The streets of the city comprise at the present time about 1,000 miles, of which about 600 miles are what we call constructed. There are about 600 miles of alleys, of which about 300 miles are improved, so that there are between the streets and alleys of the improved portion of it something like 900 miles to be taken care of.

The particular thing that I want to interest you in to-night is dust prevention. The construction of streets has taken from it one of our greatest interests, leaving us free to give the time to the care of the streets. I hold now and have always held that the city, as a municipality, should do all those things for the city in which the health and the comfort of the individual in the community is paramount to that of making money. The city ought not to let a contract to any one for any use such as the question of garbage, the question of rubbish, the removal from the streets of the dead animals that fall there, the sprinkling of the streets, and while it should be handled as cheaply as possible, yet the question of cheapness should not be the first interest. At present the sprinkling of the streets, while it is not satisfactory, costs us a good deal of money. I presume all physicians have automobiles—I think I have helped pay for some of them—anyway, as soon as you have them you are interested in the condition of the streets. You find the street is not clean, or is covered with a film of water, which is not only dangerous, but detrimental to the streets. There is nothing worse for asphalt or brick or a soft street than the continual application of water.

"A part of our proposed change in this department is to apply the money that has heretofore been collected from the property-owner to increasing the oiling of the roads. We oiled in the city about thirty miles this year. We hope next year, if our plans hold out, to oil about sixty miles and to increase that until all our made streets and a great many of our unmade streets are treated in the same manner. Particularly do we wish to eliminate dust. You people can tell me much more than I can tell you about the necessity for eliminating dust. As to the manner, I think these streets should be washed and not sprinkled. At present we make mud of the street, repeating the operation during the day, using in the downtown district about eight trips a day. I think it should be done at night by washing the streets into the sewers. That, however, cannot be done until the people in the downtown districts take care of their sidewalks by sweeping the rubbish into the street at night. This brings me to the point where I wish to ask your assistance. I hope during the winter to start a plan—I don't know whether you would call it a crusade—but, anyway, a plan to clean up the downtown district. This must be done largely by public sentiment. You have a law now that no sidewalk should be swept during certain hours, but

that has not been enforced during recent years and will not be until you get public sentiment behind it. This goes somewhat slowly unless you get something of a push behind it, call the attention of people to it, and that is what I am going to ask, that sometime during the winter you will turn more direct attention to it. I shall be very glad to give you any information that you wish, but you can by the force of your talk and the force of your advice help us very materially.

"We have this past month helped to take out of the streets in the downtown district, especially north and south Broadway—possibly some of you going through there have seen the street littered with boxes and with merchandise—we have helped to do a considerable amount of cleaning in that district, and I think much more should be done. I don't mean the Third street district, which is essentially a wholesale fruit district. I think that should be left alone, but in other parts of the city where they use the sidewalks for material which has no direct interest to the passerby. I have been sending men through there to notify the merchants as to what we want, have taken pictures, and have asked them to say that when we come back they will show us an improvement, not in a day or a week, but to show gradually an improvement. And that is one direction in which the department of streets and sewers expects to put in a great deal of effort, that is, the general cleanliness of this town. I might say that we have inaugurated during the last year a clean-up week. We had a clean-up week last May. The department, I think, hauled and disposed of 1,400 loads of all kinds of rubbish.

"This society can render more effective the work, not only by such suggestions as you may make as a body, but also as individuals. You are thrown into close contact with a great many people in a way that makes your suggestions of particular force, and I will close with this hope, that we do get this co-operation from you, both as a body and as individuals."

MR. CHARLES E. SEINGLEY, director Department of Public Safety: "The board of freeholders, in their wisdom, amalgamated the fire department and the building department under the direction of the director of public safety. Now, the manner in which they co-operate to the advantage of the city comes from the fact that the members of the fire department are used in inspecting buildings to draw attention to any debris of any condition that may cause a fire. The building commissioner has authority to correct these conditions and, of course, under the new regime there is more prompt action taken in that direction, and we feel now that we are doing a great deal of good by very thorough inspections and by the correction of a great many things that would cause fires.

"Of course, our department is not calculated to have much to do with medical assistance, only to protect their homes, and we are going to try to do that to the best of our ability. I am not going to entertain you with a long talk, because the hour is getting late, but you can all help me, as well as the other directors, by assisting us in keeping the premises clean of debris and communicating to us anything that you find on your visits that would cause fires. If you will kindly let us know, we will thank you and we will remedy the condition."

MR. EMIL N. TOLKACZ, director Department of Public Welfare: "The new charter affects the institutions in which you are primarily interested. The effect the new charter has on these institutions is merely this: that it abolishes the hospital board, it gives the eleemosynary institutions direct representation on that board having that part of the city's government in which all constructive work for these institutions must emanate. With this, as the Board of Public Improvements, under the old charter, the

hospital board or the hospital organizations or the organization of all the eleemosynary institutions had no direct representation. Possibly those of you who have been directly interested in these institutions can recognize the importance of that as well as I can tell it to you. I don't want to cast any reflections nor any aspersions on the old Board of Public Improvements, of which my friend, Mr. Kinsey, was president, but I will say this, that it was very difficult for us to get what we wanted, and we wanted it when we wanted it, owing to the fact that most of the work in that department necessarily had been delegated to men possibly in more subordinate positions, and the work was so great and so multifarious that the president or his immediate associates could not give these matters the attention which from now on it will be my effort to see those matters get. I hope, therefore, with the little influence on that board that I have as a member, to get the institutions in such position that they will get at least as much attention as the other departments of the city government will get.

"You gentlemen know that about four years ago the new hospital board organization became a law and hardly existed long enough to give the measure a full trial before it was abolished. I think that most of you, however, are prepared to agree with me that it succeeded in doing some considerable good in the institutions, especially is this true of the City Hospital.

"One of the most important measures provided by the new ordinance was the creation of a visiting staff. A good many of you gentlemen are aware of the difficulties which the board encountered as to the method by which such a staff should be appointed. However, the visiting staff was created and went into operation in the hospital, superseding the former method of handling hospital medical affairs. I remember that at a meeting which was held shortly after the medical staff was appointed the medical staff and I tried to impress on the medical men that it rested largely with the medical fraternity of this city as to whether the visiting staff as constituted at that time was going to prove a success or a failure. I am prepared to-day to say while it did not prove a success it did a great deal of good and I think the patients in the hospital have received a great deal better medical attention under the system than before. The organization of the visiting staff was a very loose one; there was no cohesion, no co-operation; the result was that the members entered the City Hospital as individuals and not as members of one large body. As a consequence we were unable to fill all the positions on the visiting staff with the sort of talent we had obtained originally, due to the fact that the inducement did not seem to be enough to attract them to the service. Of course, this does not include all the branches of medicine. I could to-day find enough gentlemen in the surgical branch to fill a staff of a hundred; everybody wants to be on the surgical staff, everybody applies for surgical work, and we have always had an abundance of material for that particular department, but we did not have it in other departments.

We are now on the eve of reorganizing the staff. The hospital commissioner and myself, in consultation with some of the college men of this city, representatives of Washington University and of St. Louis University and with other gentlemen in conference, have finally decided on the following plan of visiting staff. I know that possibly the Department of Public Welfare will be severely criticized by some; I have never hoped to find any method of appointing a staff that would not be criticized by some man who wanted to get on the staff and could not—we have only a certain number of positions to be filled and only a certain number can be appointed.

"We shall divide the service at the City Hospital into three distinct services; one service will be under the charge of Washington University, the second service will be under the charge of St. Louis University, the third service will be an open service and the physicians will be appointed by the department itself. Each one of these services will be composed of a certain number of specialists in each branch of medicine. They will be directly under the control of the university organization responsible for their appointment. I know and feel that we will get more orderly work in the City Hospital by this method than we did under the old. If this causes some dissatisfaction among some members of the medical profession, I can only go back to what I said before, that the very inactivity and lack of co-operation of the old staff has forced us to adopt this new order of things. And I will state further that if this system does not give us the best results in the City Hospital, it shall be the duty of this department to get the best service that we can for the sick in the City Hospital. If we cannot do that through volunteer work of the profession, this department will be forced to put on a staff of paid men to take care of the city's poor. That would be a great loss to the profession, it would be a great loss to the universities if all the clinical material which is in the City Hospital should lie dormant and not be utilized as it should be. If such a contingency should arise it can only arise by the fact that you gentlemen have not taken the opportunity of using it as it should be used.

"I will just touch lightly and in a few words on the improvements that have been made in the City Hospital and those which we hope to make in the near future. We have, in the first place, one of the biggest improvements in the City Hospital in its kitchen and the physical well-being of the patients. We have had to go back to the old, original cook, which is woman, and have done away with the male cook. Those of you who have visited the City Hospital and have gone into the kitchen under the charge of that woman will agree with me when I say that this change has effected one of the greatest improvements in the City Hospital. The patients are much better fed; not only do they get a better grade of material, but the material is better prepared under her supervision.

We have converted the A building, as you all probably know, into a psychopathic ward, which has done a great deal of good, as will be shown by the fact that in the last year and a half we have had almost no increase in the Sanatorium admissions. The population now is a little over 2,000 in the Sanatorium, while a year and a half ago it was over 1900, so you can see that the admissions have increased very little. The proper preliminary determination of what ails the patient in this ward at the hospital has been of great benefit. We have a system of investigation, location and treatment by which a great many of the patients who formerly were admitted to the asylum are now sent back home. We also have a much more capable system of investigating the large number of shipped-in patients. There are a great many neighboring counties and neighboring states which, when they have a mentally incompetent patient, like to put him on the train and ship him to St. Louis; he gets off at the station and the first thing you know he is picked up on the street and sent to the observation ward.

"What we hope now to obtain for the City Hospital is a house or building for the nurses, separate and distinct from the hospital. As you know, the nurses are now in the City Hospital itself, which is bad for two reasons; in the first place, they are taking up room which we need for other purposes; in

the second place, as a health measure, it is bad to have these girls living there, going from ward to room and from room to ward without having the compulsory opportunity of getting fresh air and exercise. It has always been the plan to build a nurses' home and that it has not been carried out up to the present time is because the funds have not been available. The direct result of the nurses' home would be that we could take the internes who are occupying the east building, move them to where they properly belong, which is, I think, in the H building, and then we could utilize the east building for the purpose for which it was originally built—a children's hospital in a separate, distinct building. The measures now employed in handling children are not at all satisfactory; we continue them simply as the best thing to do, and we hope that in a short time with the aid of this nurses' building to have a real children's hospital.

"We have also made quite extensive improvements in the Roentgen-ray department of the City Hospital; although this is not now in what you might call modern, A1 working order, I signed a requisition to-day for—I think they call it a Kelly apparatus, you gentlemen probably know more about that than I do—but it is the apparatus which is considered, by men like those at Washington University and elsewhere, to be the best apparatus that can be had. This apparatus will be installed in the City Hospital in a short time and we have an expert who is continually there. I think we will be able to make this department much more effective and of a great deal more assistance to the staff than it was heretofore.

"The Isolation Hospital is also well under way. I don't know whether any of you gentlemen have been out in that direction lately, but one building is well out of the ground and if it had not been that we had so much rainy weather the last two or three months we should be much better along. We had a very hard fight to convince the Twenty-Fourth Ward that the mere location of an isolation hospital out there did not mean that everybody in that whole ward would get German measles and whooping-cough and all the other diseases. The entire institution when completed will be composed of four ward buildings built in L-shape, with a building in the center for observation, and an administration building in front for the nurses and doctors and whoever is resident on the premises; it will also have a separate kitchen, which will be in the rear of the general layout. The entire group of buildings is on the main service line which is in operation for the infirmary and emanates from the power house on the Sanatorium grounds. Take it all in all, it is an ideal location, and when the group of buildings is completed will be not only not a menace but one of the beauty spots of the Twenty-Fourth Ward.

"We have also in mind the erection of a tuberculosis hospital at Koch. That is in the general plan of things to come in the future. I don't think any city has a better location for a tuberculosis hospital than the location at Koch. The building site would be on a high eminence of ground directly west and north of the water tower, on rising ground sloping back to the road, and would make an ideal location for an institution of that kind. A great many people come to St. Louis and are told that we have a tuberculosis hospital. I discourage all that, because we have not. We have simply got a place down there that has been illegally put to the uses of tuberculosis patients because the condition of those patients was such that their presence was a menace to the other patients in the City Hospital.

The Dispensary Building has also been designed and will be located directly back of the jail on the Municipal Courts property, and if I am not mistaken,

I was instrumental in doing some work on the original sketches. I think the building located there will be modern in every respect. We have temporary detention quarters for inebriates where they are taken instead of being taken to jail—some of them go to jail afterward, and some of them do not.

"There is a large institution called the Sanatorium in which the insane patients are housed. It is my personal hope—I don't know how soon it will be realized—that the city will conceive the idea that we are not properly taking care of these people by confining them in that large institution and that ultimately we shall be able to get an industrial farm for insane patients, where those people can be set at work and all of them enjoy the fresh air and get out in the open more than they do. I have no doubt that an institution of that kind could be run without any expense to the city for the up-keep, besides largely increasing the possibility of improvement if not cure.

"In conclusion, I wish to thank you for the opportunity of appearing before you and telling you some of the things we have done and what we hope to do, and I want to sincerely ask the co-operation of the St. Louis Medical Society in all things that lie in my department in which the experience that you gentlemen have gained may be of assistance to the department. I assure you that any suggestion coming from you will be gratefully received and will receive due attention."

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society met in the court house at Butler, Dec. 31, 1914, Dr. T. C. Boulware presiding. The minutes of the last meeting were read and approved.

Dr. J. A. Corn of Amoret was formally accepted as a member.

This being the time for election of officers to serve during 1915, a motion carried that Dr. Boulware, who had so faithfully worked for and diligently presided over the society the past year, be reelected to the presidency; vice-president, Dr. C. J. Allen, Rich Hill; secretary-treasurer, Dr. C. A. Lusk, Butler; delegate, Dr. C. A. Lusk; alternate, Dr. E. R. Robinson, Adrian; censors, Drs. T. W. Foster, Butler; V. J. Compton, Pleasant Gap, and J. H. Fletcher, Spruce.

On motion the society adjourned to meet again the last Thursday in January, 1915.

C. A. Lusk, M.D., Secretary.

BENTON COUNTY MEDICAL SOCIETY

The Benton County Medical Society met in the office of Dr. H. G. Savage, December 23, with Dr. E. H. Gist in the chair. The meeting was called to order at 10:30 a. m. Reading of the minutes of the last meeting were first in order, then the discussion of some cases of interest and particularly that of unprofessional conduct.

The application of Dr. B. F. Windell was read and laid over for action until the next meeting.

Dr. Gist asked the opinion of the members in reference to a case of bilateral goiter in a young, unmarried woman. The case was discussed and some suggestions were given as to examination of other parts as well as the thyroid glands. Also that if local and constitutional treatment did not give relief that the only thing safe was the knife.

The election of officers for the ensuing year resulted as follows: President, Dr. James A. Logan, Fairfield; vice-president, Dr. Horace G. Savage, Warsaw; secretary-treasurer, Dr. John R. Smith, Warsaw; delegate, Dr. H. G. Savage, Warsaw; alternate, Dr.

E. H. Gist, Fristoe; censor for three years, Dr. Edmund F. Haynes, Warsaw; Dr. Robert L. Pomeroy was elected a member of the committee on public health.

Members present were: Dr. E. H. Gist, Fristoe; Dr. E. L. Rhodes, Lincoln; Drs. E. F. Haynes, H. G. Savage, Marion Dillon, R. L. Pomeroy and J. R. Smith, Warsaw.

The society adjourned to meet in Warsaw by the call of the president, Dr. J. A. Logan.

JOHN R. SMITH, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held in their rooms Wednesday evening, December 2, with forty-nine members present; Dr. J. J. Bansbach in the chair. The minutes of the previous meeting were read and approved.

The report of the banquet committee was received and referred back to the committee with instructions to carry out the program as reported.

The Library Committee, through Dr. Morton, reported that the society's subscription to medical journals at the library had expired and requested that they be renewed for the coming year. The committee was given power to proceed with the necessary action to secure their renewal.

A communication from Dr. J. A. B. Adcock, secretary of the State Board of Health, was read and the communication was ordered to be filed for future reference.

The following officers were elected to serve for 1915: President, Dr. J. F. Owens; first vice-president, Dr. W. J. McGill; second vice-president, Dr. A. R. Timmerman; secretary, Dr. W. F. Goetze; treasurer, Dr. J. M. Bell; censor, Dr. F. H. Ladd; delegate, Dr. H. S. Forgraves; alternate, Dr. J. J. Bansbach.

The hour being late, Dr. A. L. Gray's paper was deferred to be read at the next meeting, and the society adjourned.

Meeting of December 16

The regular meeting of the Buchanan County Medical Society was held at their rooms at St. Joseph, Wednesday evening, December 16, seventeen members being present and the president, Dr. J. J. Bansbach, in the chair. The minutes of the previous meeting were read and approved, excepting a change made in the announcement of the vote on Dr. Lyda Hilliard, which was changed to read, failed of election.

A letter was read from Dr. S. F. Carpenter, resigning from our society as an active member on account of ill health. On motion of Dr. F. H. Ladd, the society elected Dr. Carpenter an honorary member and the secretary notified to inform him.

The application of Dr. H. S. Conrad received its first reading and was referred to the Board of Censors for their action.

The Public Health and Legislation Committee, through Dr. Ladd, requested further time for a report and very earnestly solicited the cooperation of the members in reporting cases and patients handled by non-registered and unethical physicians.

An acknowledgement of the testimonial and flowers sent to the family of Dr. O. B. Campbell was made in a letter from Mrs. Campbell.

A very interesting and enjoyable paper was read by Dr. A. L. Gray, subject "Pituitary Extract and Excuses." The paper was discussed by the following members: Drs. Owens, Ladd, Willman, Stamey and Beck.

W. F. GOETZ, M.D., Secretary.

CARTER-SHANNON COUNTY MEDICAL SOCIETY

A regular meeting of the Carter-Shannon County Medical Society was held at Van Buren, Dec. 8, 1914.

The election of officers resulted in Dr. Frank Hyde of Eminence being elected president to fill the vacancy caused by the death of Dr. A. R. McNeal of Winona, and Dr. J. A. Chilton reelected secretary-treasurer.

After disposing of the regular routine work, the time was devoted to other subjects, among which was that of the amount of fees charged by physicians for their services. Inasmuch as the increased cost of living strikes the physician even harder than it does the average individual, and in consideration of the very pronounced increase in the cost of drugs, instruments, etc., the sentiment was voiced that doctors are justly entitled to charge somewhat higher for their services than formerly.

Among other subjects presented to the society were "Pneumonia," by Dr. T. W. Cotton; "Diphtheria," by Dr. H. L. Meador of Garwood, a guest of the society, and a discussion on dislocated elbow.

The meeting was a successful one and enjoyed by all present.

J. A. CHILTON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville, December 10, with the following members present: Drs. H. A. Brierly, H. S. Crawford, C. S. Dodd, D. S. Long, M. P. Overholser, R. D. Ramey and J. S. Triplett.

Dr. M. P. Overholser read a paper on "Treatment of Diabetes," which was sketched from a paper written by Dr. Robin of Paris, France. This was a subject of special interest to the general practitioner and was followed by a free discussion by all present.

The subject of typhoid bacterins as a prophylactic in controlling the spread of typhoid fever was discussed by the members present.

The annual report of the secretary-treasurer showed a membership of thirty-three during the year 1914. The society lost two members by death: Dr. R. P. Walker of Belton and Dr. J. B. Brierly of Gunn City. Appropriate records were placed on the minutes.

The election of officers resulted as follows: President, M. P. Overholser; first vice-president, D. S. Long; second vice-president, R. D. Ramey; secretary-treasurer, H. S. Crawford; member of board of censors for three years, D. S. Long.

After a free discussion of matters pertaining to the good of the society the meeting adjourned.

H. S. CRAWFORD, M.D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY

The Clinton County Medical Society met at Lathrop, December 22, and after being royally entertained and feasted on "possum and sweet taters" by our good friends, Dr. and Mrs. McConkey, we proceeded with our regular business which consisted of discussion of various subjects of local interest to the medical profession, and elected officers for the ensuing year as follows: President, C. W. Chastain, Plattsburg; vice-president, R. W. Rea, Plattsburg; secretary-treasurer, M. L. Peters, Cameron; delegate, P. M. Steckman, Plattsburg; alternate, C. H. Risley, Cameron.

M. L. PETERS, M.D., Secretary.

COOPER COUNTY MEDICAL SOCIETY

The Cooper County Medical Society met in regular session December 1, Dr. G. A. Russell, president, in the chair. A goodly number of physicians were present.

After considerable discussion of several very interesting clinical cases the following officers were elected for the ensuing year: Dr. Wm. L. Abney, Blackwater, president; Dr. H. D. Quigg, Boonville, vice-president, and Dr. C. S. Roberts, Boonville, secretary-treasurer.

The society will take its annual dinner at the Frederick Hotel at Boonville, Jan. 5, 1915.

C. S. ROBERTS, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

The Greene County Medical Society has just closed one of the most successful years in the history of the organization. We have a membership of seventy-six, held twenty regular meetings with an average attendance of twenty-five. The president, secretary and one other member were present at every meeting. The program committee prepared an excellent program for the entire year so that there was not a dull meeting. As papers of especial interest, I wish to mention those of Dr. H. S. Crossen of St. Louis, May 8, subject, "The Medicinal and Surgical Treatment of Severe Prolapsus Uteri"; on April 16, Dr. H. C. Shuttee of West Plains, subject, "Sprains," and October 23, Dr. Jabez N. Jackson, Kansas City, subject, "Retro-Cecal Appendicitis." And were I to mention the papers of merit from members of our own society I would have to mention them all, for in each one it was evident that much time and labor had been spent in preparation.

The committee on legislation can also be commended for their labors. While we have not accomplished all we expected, still we realize that there are many obstacles to overcome and we are not discouraged but determined to reinforce our fortifications for the next attack.

Our membership increased during the year sufficient to entitle us to two delegates to the Missouri State Medical Association meeting. The benefits of the county society are being realized more each year by eligible physicians, and they are now seeking membership in the society. We are hopeful of a profitable year in 1915, and have elected the following officers, who will assume their duties Jan. 8, 1915:

President, A. L. Anderson; vice-president, O. C. Horst; secretary, T. O. Klingner; treasurer, E. F. James; censor, three years, F. B. Fuson; delegates, two years, S. A. Johnson; one year, T. A. Coffelt; alternates, 2 years, E. C. Roseberry; one year, W. P. Patterson.

THOMAS O. KLINGNER, M.D., Secretary.

GRUNDY COUNTY MEDICAL SOCIETY

The Grundy County Medical Society met in regular session at the City Hall in Trenton, at 7:45 p. m., December 15, Dr. J. A. Asher, the vice-president, in the chair. This being the time for the annual election, no regular program had been prepared. Instead, an informal session was held and many interesting cases were presented and discussed.

Dr. W. D. Fulkerson, treasurer, reported a balance of cash on hand amounting to \$80.01. He also made a motion that the society collect no local dues for the

ensuing year. After being seconded the motion carried.

The secretary was instructed to wire the state secretary for information as to how to prohibit the "United Doctors" from operating in Trenton.

The secretary was further instructed to mail application blanks to all those who are not members and who are eligible for membership.

Ballots were then prepared and officers elected for 1915 as follows: President, T. E. Moore, Trenton; vice-president, O. R. Rooks, Trenton; secretary, E. A. Duffy, Trenton; treasurer, W. D. Fulkerson, Trenton; delegate, J. A. Asher, Trenton; alternate, E. A. Duffy, Trenton; censor for three years, B. E. Sheetz, Trenton.

The president, T. E. Moore, then took the chair and appointed a program committee as follows: E. A. Duffy, chairman, W. H. Winningham and J. A. Asher.

On motion the society adjourned.

O. R. ROOKS, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in the court house on Wednesday, December 30, being called to order by the president, Dr. S. A. Poague. Members present: S. A. Poague, W. H. Gibbons, R. D. Haire, J. R. Wallis, A. J. McNeese, E. C. Peelor, W. R. Campbell, R. J. Jennings, Charles W. Head, J. H. Walton, B. E. Barr, and visitors, N. I. Stebbins, M. P. Bradley and F. M. Douglass.

In the absence of the secretary, Dr. F. M. Douglass was appointed to act as secretary.

The election of officers for the ensuing year resulted as follows: President, J. R. Wallis, Clinton; vice-president, W. H. Gibbons, Clinton; secretary-treasurer, F. M. Douglass, Clinton; delegate, F. M. Douglass, and alternate, J. H. Walton, Windsor.

Dr. J. H. Walton read an interesting paper on "The History and Our Present Knowledge of Diphtheria." The history of several cases was given, followed by a discussion by Drs. Haire, Gibbons, Poague and Head.

Dr. N. I. Stebbins, who came to Clinton to fit up and open a hospital, made a short talk on what he was doing and wished to do, and requested the cooperation of the society. By unanimous vote Dr. Stebbins was elected to membership.

The secretary was instructed to invite the president of the State Association, Dr. H. C. Shuttee, and the secretary, Dr. E. J. Goodwin, to be present at the next meeting of the society on Wednesday, January 20.

F. M. DOUGLASS, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met at Fayette, Dec. 8, 1914, Dr. T. J. Payne in the chair. The members present were Drs. Lee, Watts, Richards, Dinwiddie, Payne and Moore.

The minutes of the November meeting were read and approved.

Dr. Richards reported no changes in patient who had uterus and ovaries removed on account of carcinoma of the cervix.

Dr. Dinwiddie spoke on vertigo caused by stomach and intestinal disorders and nose and eye troubles.

The censors reported favorably on application of Dr. James W. Winn of Higbee, who was elected a member. Dr. Charles F. Burkhalter of Higbee, who was formerly a member, was reinstated.

A letter from Dr. White was read asking information as to the fees in life insurance examinations. A consideration of this matter was continued to the next meeting.

A letter from Dr. C. B. Lawrence, who has moved to Clifton Hill, was read, expressing a wish to remain a member of the Howard County Medical Society. The society instructed the secretary to collect his dues and forward state assessment to state secretary.

The secretary reported fifteen members paid up and state assessment forwarded to state secretary for the year 1915.

The prospects for the coming year are bright for the Howard County Medical Society. After a very interesting session the society adjourned at 4:30 p. m. to meet the first Friday in January, 1915.

C. W. WATTS, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society met at Aurora, Dec. 1, 1914. The meeting was called to order by the president, Dr. H. L. Kerr.

The following members answered to roll call: Drs. C. A. Moore, F. S. Stevenson, R. C. Robertson, T. D. Miller, D. C. Adams, J. A. Melton, W. S. Loveland, J. A. Harris, J. P. Andrews, C. E. Fulton and H. L. Kerr.

Dr. J. A. Melton of Aurora was elected to membership in the society. The following officers were elected for the year 1915: President, Dr. W. S. Loveland, Verona; vice-president, Dr. L. S. Shumate, Reeds Spring; secretary, R. C. Robertson, Aurora; treasurer, Dr. F. S. Stevenson, Aurora; delegate, Dr. J. A. Harris, Mt. Vernon; alternate, Dr. D. C. Adams, Aurora; censors, Drs. C. A. Moore, J. P. Andrews and H. L. Kerr.

The following program was rendered: Report of Case of Nephropotosis, by Dr. W. S. Loveland; Ludwig's Angina, by Dr. C. E. Fulton; Report of a Case of Enlarged Turbinates, by Dr. C. A. Moore; Report of a Case, by Dr. T. D. Miller. The society adjourned to meet at Aurora, March, 1915.

R. C. ROBERTSON, M.D., Secretary.

LACLEDE COUNTY MEDICAL SOCIETY

The Laclede County Medical Society, on Monday, December 14, had an unusually busy, pleasant and profitable day at its annual meeting.

At 2 p. m. the society met in the parlors of the Laclede Hotel and without opposition the following officers were chosen for next year: President, J. L. Benage, Lebanon; vice-president, J. W. Lindsay, Orla; secretary-treasurer, J. A. McComb, Lebanon; program committee, T. B. Herbert, J. H. H. Reser and C. E. Carleton; board of censors, J. M. Billings, S. A. Casey and W. O. Pool.

Dr. G. W. Cale, Jr., of St. Louis, chief surgeon of the Frisco railroad, read a most excellent paper on "Treatment of Fractures," presenting Roentgen-ray photographs demonstrating the good results he had obtained with the use of the Lane plate in fractures.

J. E. Millsapp, Ph. G., presented a paper on "The Relation of the Physician and Druggist," setting

forth the reasons why a physician should prescribe rather than dispense medicine, emphasizing that the only difference between a patent and proprietary medicine is the manner and mode of placing it on the market. The writer and his message was courteously received and friendly discussion followed.

In the evening Dr. T. A. Coffelt of Springfield addressed a public meeting at the Congregational church on "Preventive Medicine," and Dr. S. A. Johnson, of the same place, read a paper on "Heredity." This meeting was a disappointment in the matter of attendance, which we attribute to the unusually cold December weather of the Ozarks. The address and paper were worthy of a larger hearing, but those present very much appreciated their worth and it is to be hoped the society may have the opportunity sometime to convince these gentlemen that we do not freeze our guests from choice.

We closed the day by having lunch at the Laclede Hotel with our wives, and even they seemed to think better of the Laclede County Medical Society about midnight than they ever before admitted.

J. A. McComb, M.D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

The Pettis County Medical Society met at Sedalia, Nov. 27, 1914, in a special meeting occasioned by the visit to our society of two of our state officers, President H. C. Shuttee and Secretary E. J. Goodwin.

The meeting was presided over by our society president, W. A. Beckemeyer, with the following members present: Drs. M. P. Shy, W. J. Ferguson, C. A. McNeil, W. M. Wheeler, D. P. Dyer, S. G. Kelly, E. F. Yancey, E. A. Albers, E. A. Wood, J. G. Love and Guy Titsworth.

Visitors present, Drs. Shuttee, Goodwin and Tucker.

A small amount of routine and local business was taken up and dispensed with. The society was then favored by an interesting talk from Dr. Shuttee, who disclaims, as is usual in his case, all claims as an orator, but his effort immediately disproved his previous statement. Dr. Shuttee gave us an outline of the work being done by the State Association, also on the good that could be accomplished by a closer affiliation and more brotherly feeling among the members, thereby acting as an organized unit.

Dr. Shuttee's talk was followed by Dr. Goodwin, who also told many things of interest concerning the workings of our State Association at present, as well as the aims and objects of THE JOURNAL, paying particular stress on activity concerning medical laws that no doubt will come up for consideration at the next meeting of our state legislature.

At the conclusion of Dr. Goodwin's talk, Dr. E. F. Yancey made a double motion. First, that we as a society thank our state officers for meeting with us; second that we adjourn to the Robinson Café and partake of a light repast, etc. Both motions carried unanimously.

Our medical society has been put into working order following our usual summer vacation, and bids fair to do as good if not better work during this year than ever before in its history.

GUY TITSWORTH, M.D., Acting Secretary.

POLK COUNTY MEDICAL SOCIETY

The Polk County Medical Society met in the Cary Hotel parlors, Bolivar, Tuesday, December 8, at 11 a. m., with the following doctors in attendance: R.

Lee Russell, A. J. Stufflebam, R. D. Dill, Humansville; C. H. Brown, Fair Play; R. C. Nevins, Flemington; C. N. Hahn, J. M. Dunnegan, J. E. Loafman, W. D. and W. G. Drake, A. P. Mitchell and J. F. Roberts, Bolivar. Also honorary members, E. C. Roseberry and Joseph W. Love, Springfield.

Dr. R. Lee Russell called the meeting to order and after the society's approval of the minutes of the last meeting, Dr. A. B. Killingsworth of Dunnegan was elected a member of the society.

Dr. Russell read the president's address, after which Dr. E. C. Roseberry read an interesting paper on the pathology and treatment of chronic leucorrhea.

Dr. Brown reported a case of vaginal hematoma and Dr. Stufflebam described a somewhat similar case.

Dr. Loafman reported cases of obstruction of bowels and Dr. Roberts one of puerperal eclampsia.

Dr. J. W. Love gave an interesting lecture on the causes, prophylaxis and serum treatment of typhoid fever.

Dinner was served to the members at the Cary Hotel.

Officers for 1915 were elected as follows: President, Dr. C. H. Brown; vice-president, Dr. W. G. Drake; secretary-treasurer, Dr. J. F. Roberts; member board of censors, Dr. C. N. Hahn; delegate, Dr. R. Lee Russell; alternate, Dr. A. J. Stufflebam. Dr. J. W. Love was elected an honorary member of the society.

The society adjourned to meet the second Tuesday in March at Fair Play.

J. F. ROBERTS, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in regular session at the office of Drs. Potter and Potter at 2 o'clock p. m., December 15.

The meeting was called to order by Dr. W. H. Zieber, president. Members present were: Drs. W. H. Zieber, J. H. Keller, W. H. Justice, E. L. Mitchell, B. B. Potter, W. A. Potter, H. E. Gerwig, A. J. Drake and J. B. Bridges.

The minutes of the last meeting were read and approved.

The report of the secretary-treasurer was read and approved.

The election of officers for the ensuing year resulted as follows: president, Dr. W. A. Potter, Lancaster; vice-president, Dr. H. E. Gerwig, Downing; secretary-treasurer, Dr. J. B. Bridges, Downing.

Dr. H. E. Gerwig read a paper on the management and treatment of abortion and premature labor.

Dr. A. J. Drake read a paper on gonorrhea. Both papers were interesting and were discussed by all members present.

Drs. W. F. Justice, B. B. Potter and B. W. Hight were appointed to furnish the program for the next meeting to be held at Lancaster, April 14, 1915.

J. B. BRIDGES, M.D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY

The Shelby County Medical Society met in Shelby, December 22. The minutes of the November meeting were read and approved. The November meeting was a good one. At that time Dr. Roberts of Hunnewell read a paper entitled, "The Relation of the General Practitioner to the Specialist." The paper was freely discussed by all. The general trend

of the discussion was for the practitioner to ally himself with specialists who had proven themselves men as well as leaders in their branches of medicine.

Dr. Smith of Shelby read a paper on "Ophthalmia Neonatorum" and reported three cases. The paper concluded with a plea for the more general use of prophylactic measures for the prevention of sore eyes in babies.

Dr. Wood of Lentner presented a case of psoriasis universalis. The case had been shown before and is being followed by the society with much interest.

At the December meeting the following officers were elected: President, A. D. Furgeson; vice-president, R. S. Battersby; secretary-treasurer, A. M. Wood; censor, A. White.

Committee on public work reported they had been unable to get a speaker for this month, but promised to have a public meeting early in the new year.

The Shelby County Society believes that it has just closed the best year in its history. The attendance has been better, papers prepared with more care, discussion and comments more keen and interesting. The board of censors have really worked and freely expressed their views. It is believed that they have helped the society and individual members.

During the year there were nine meetings with an average attendance of eight. Twelve papers were read and seven clinical cases were presented. One meeting was given over to a clinic by Dr. Max Myer of Columbia; his subject was "Goiter." The morning was spent in hearing a well-prepared paper on the subject and during the afternoon thirteen goiter cases were examined and discussed. At this meeting a number of Macon County Society members were present.

We start the new year with plans for a better attendance, more interest and at least one public meeting.

R. S. BATTERSBY, M.D., Secretary pro Tem.

JOINT SESSION OF VERNON COUNTY AND BATES COUNTY MEDICAL SOCIETIES

The Vernon County Medical Society met at the office of President E. A. Dulin, December 3, at Nevada.

At the morning session the following officers were elected for the ensuing year: president, E. A. Dulin; vice-president, W. T. Bohannon; secretary-treasurer, J. T. Hornback; censor, J. F. Robinson; committee-man on public sessions, I. W. Amerman.

During the afternoon a joint session of the Vernon and Bates County Societies was held at the State Hospital.

The president, Dr. E. A. Dulin, by his timely and interesting remarks at the opening of the afternoon session, made all members feel that they were at home.

Dr. T. C. Boulware, president Bates County Medical Society, responded in a characteristic vein.

Dr. E. N. Chastain, councilor for the district, read a most interesting paper that will find a place in THE JOURNAL in an early issue.

Dr. E. J. Goodwin, secretary of the State Association, spoke on the benefits and privileges of membership in the organized profession, described the expanding work of the State Association, the influence and activities of the American Medical Association, and the improvements made and things yet to do for the uplift of the profession and the welfare of the practitioner.

Dr. William F. Kuhn of Kansas City was prevented by illness from attending the meeting. His place was ably filled by Dr. A. L. Skoog of Kansas City, who presented a clinical lecture on epilepsy and allied convulsive states. The presentation of the cases was preceded by a short discourse on the history and the classification of the epileptic states. The patients were selected from the wards of the State Hospital, and included a variety of grand mal and petit mal cases. One case of traumatic epilepsy was shown in which a trephine operation had been performed many years previously. In contrast to the latter was a patient giving a history of a head injury which in reality had no bearing on the disease. A case of paresis with epileptiform convulsions was demonstrated. The cases were discussed by the attending physicians and questions put to Dr. Skoog.

Dr. Frank J. Hall of Kansas City discussed "Serums and Vaccines." He presented the subject in a most practical and instructive manner. He called special attention to the disposition of the profession to use larger initial doses of antitoxin in diphtheria, to use the intramuscular method in preference to the subcutaneous and to the rapidity of action and prompt beneficial effects of the intravenous injections of the antitoxin in malignant and tracheal diphtheria. All the practical phases of serum and vaccine treatment were presented and obscure points elucidated. A general discussion followed in which numerous questions were asked and fully discussed.

Dr. E. A. Dulin read a paper on pneumonia, a topic that is always fruitful in arousing ideas, and was here well discussed.

At 6 o'clock the members gathered in the banquet room of the hospital as the guests of Dr. William P. Bradley, superintendent, and the officers of the hospital. The following were present: Drs. S. A. Poague, W. H. Gibbons, A. J. McNees and R. D. Haire of Clinton; Dr. C. P. Bowden, Appleton City; Dr. E. J. Goodwin, St. Louis; Dr. H. G. Savage, Warsaw; Drs. A. L. Skoog and Frank J. Hall, Kansas City; Drs. T. C. Boulware, E. N. Chastain, T. F. Lockwood, J. S. Newlon, T. W. Foster, C. A. Lusk, Butler; H. A. Rhoades, Foster; Drs. Dulin, Amerman, Robinson, Bohannon, Brown, Williams, McLemore, Craig, Wilson, Petty, Hornback, Bradley, Summers, Dawson, Reynolds, Yater and Lancaster, Nevada; Drs. Jarvis and Curl, Shell City; Drs. Epler and James, Sheldon; Dr. Walker, Harwood; Dr. Davis, Walker; and Rev. A. N. Lindsay of Clinton, president board of managers of the hospital.

The following were appointed a committee to arrange for a tri-county society of Vernon, Bates and Henry counties: Drs. Lockwood, Butler; Haire, Clinton; Wilson, Nevada.

Resolutions on the death of Dr. C. B. Simcoe, a member of the medical staff of the hospital, which had been adopted by the board of managers and by the county medical societies, were read as follows:

Resolutions of respect in appreciation of the services of Dr. C. B. Simcoe, staff physician, Hospital No. 3, deceased Nov. 21, 1914:

WHEREAS, On the sudden but not unexpected death of Dr. C. B. Simcoe, the medical staff of Hospital No. 3, Nevada, Mo., has sustained a decided loss of a very capable, experienced and efficient member, who has long and faithfully served the eleemosynary institutions of the state, which service is of a character to entitle him to the honor, love and respect of his associates and to be remembered by those whom he served, we, the board of managers of Hospital No. 3, pause to note with regret and deep sorrow the fact of his death, and make note of the same in the records of the institution, and properly memorialize

his widow in an honorable way, and express to her our deep and heartfelt sympathy in her hour of sorrow and trial, and do hereby extend to her condolences and prayer for comfort. By unanimous vote the board of managers direct that these resolutions be spread on the records of the institution and a copy be given his widow, Mrs. Elizabeth M. Simcoe.

A. N. LINDSAY, President Board of Managers.

At a joint meeting of the board of managers of State Hospital No. 3 and of the Vernon and Bates Counties Medical Societies held at the said State Hospital on Thursday, December 3, Dr. E. A. Dulin was selected as a committee to draft resolutions on the death of Dr. C. B. Simcoe.

WHEREAS, The death of Dr. Charles Bailey Simcoe has removed from among us a well-known and admired associate, who for many years gave his best efforts to the cause of the mentally unfortunate, and who for many years was officially connected with this and other hospitals of this state and whose untimely death we deeply regret:

Resolved, That in the death of Dr. Simcoe this hospital has lost the services of a brilliant practitioner who was at all times a conscientious student, an ornament to his profession and a colleague through whose scholarly attainments medical service has been advanced and notably enriched.

Resolved, That his attainments in other fields than those of his chosen specialty and a natural courtesy and grace of manner lent particular charm to association with him.

Resolved, That we will miss his wise counsel at our board meetings, and that the unfortunate under his late care will regret his absence, his kind attention and sincere sympathy.

Resolved, That these resolutions be spread on the minutes of the board of managers of this hospital and that of the Vernon and Bates Counties Medical Societies, and that a copy be transmitted to the widow of Dr. Simcoe, and that they be published in the *Daily Mail* and the *Evening Post* and in the state medical journal.

J. T. HORNBACK, M.D., Secretary.

WAYNE COUNTY MEDICAL SOCIETY

The Wayne County Medical Society met at Piedmont in the office of Dr. G. W. Toney, Dr. R. J. Owens in the chair.

The following doctors were present: R. J. Owens, G. W. Toney, J. E. Gilmer, T. Freeman, Edwin E. Whitesides, J. P. Sebastian, S. A. Bates, W. S. Bailey, T. W. Cotton and Ellsworth Smith, Jr., of St. Louis.

Dr. Ellsworth Smith read an interesting and instructive paper on "The Diagnosis and Treatment of Tuberculosis." The paper was quite thoroughly discussed by all present. Dr. G. W. Toney presented several patients for lung examination.

Dr. T. W. Cotton of Van Buren presented a very interesting case of an infected wound on the hand which had spread to other parts of the body.

The society adjourned to meet at Piedmont, Dec. 8, 1914.

Meeting of Dec. 8, 1914

The Wayne County Medical Society met at Piedmont, in Dr. Toney's office, with Dr. R. J. Owens presiding.

The following doctors were present: R. J. Owens, J. P. Price, J. P. Sebastian, G. W. Toney, L. E. Toney, J. E. Gilmer, T. Freeman and W. S. Bailey.

Dr. G. W. Toney presented two very interesting cases of psoriasis and described his treatment.

Dr. J. E. Gilmer read a very interesting paper on "Pneumonia of Adults." This paper was quite thoroughly discussed.

Dr. L. E. Toney read a very interesting paper on "Empyema."

In the election of officers for 1915, Dr. J. P. Price of Williamsville was elected president; Dr. J. E. Gilmer, vice-president; Dr. W. S. Bailey, secretary-treasurer; Dr. L. E. Toney, delegate, and Dr. W. S. Bailey alternate to the annual meeting the State Medical Association.

W. S. BAILEY, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

PASTEUR ANTIRABIC VACCINE.—The virus is prepared according to the method of the Hygienic Laboratory, Washington, D. C. A dose is sent by mail each day. Twenty-one to twenty-five doses constitute a treatment. Laboratory of W. T. McDougall, Kansas City, Kansas.

SOLUTION PITUITARY EXTRACT.—A solution of purified extract of the posterior lobe of the pituitary gland of the ox. It is assayed so that 1 c.c. represents 0.2 gm. fresh gland. It is used by hypodermic or intramuscular injection mainly to stimulate the uterus contraction in labor. It is supplied in the form of Ampules containing 1 c.c. Solution Pituitary Extract. The H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, Dec. 5, 1914, p. 2043).

RADIUM BROMIDE.—The market supply is a mixture of radium bromide and barium bromide and is sold on the basis of its radium content. It is sold for use in applicators, inhalatoriums and injection solutions. Radium bromide is marketed as:

RADIUM BROMIDE, RADIUM COMPANY OF AMERICA.—All deliveries are made subject to the test of the U. S. Bureau of Standards or any reputable expert designated by the purchaser. The Radium Company of America, Sellersville, Pa.

RADIUM BROMIDE, STANDARD CHEMICAL CO.—Sold by the Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, Dec. 26, 1914, p. 2289).

RADIUM CARBONATE.—The market supply is usually a mixture of radium carbonate and barium carbonate and is sold on the basis of its radium content. It is sold for use in applicators. Radium carbonate is marked as:

RADIUM CARBONATE, STANDARD CHEMICAL CO.—Sold by the Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, Dec. 26, 1914, p. 2289).

ARBUTIN, MERCK.—This brand of Arbutin has been accepted for inclusion with New and Nonofficial Remedies. Merck & Co., New York.

RADIUM CHLORIDE, RADIUM CO. OF AMERICA.—This form of radium chloride has been accepted for inclusion with New and Nonofficial Remedies. Radium Co. of America, Sellersville, Pa.

RADIUM SULPHATE, RADIUM CO. OF AMERICA.—This form of radium sulphate has been accepted for inclusion with New and Nonofficial Remedies. Radium Co. of America, Sellersville, Pa. (*Jour. A. M. A.*, Dec. 26, 1914, p. 2290).

CUPRIC APPLICATORS (COPPER SULPHATE 20-25 PER CENT.).—Wooden sticks $6\frac{1}{2}$ inches long tipped with a mixture of copper sulphate, alum and potassium nitrate, containing 20 to 25 per cent. copper sulphate. Antiseptic Supply Co., New York (*Jour. A. M. A.*, Dec. 26, 1914, p. 2290).

PROPAGANDA FOR REFORM

ALBORUM.—Alborum is sold by the Whitehouse Chemical Co., Lynchburg, Va., and is stated to contain boric acid, alum, phenol and oil of peppermint, the amounts not being declared. This preparation lacks originality and is unscientific. Its exploitation being held contrary to the best interests of the public and the profession, Alborum was refused recognition by the Council on Pharmacy and Chemistry (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

BETUL-OL.—Betul-ol is a methyl salicylate preparation advertised by E. Fougere & Co., New York, to physicians and, indirectly to the public, as an external analgesic and antirheumatic. It was refused recognition by the Council on Pharmacy and Chemistry because the statements regarding its composition are vague, misleading and incorrect, because unwarranted therapeutic claims are made for it, because the recommendations are likely to lead the public to the self-treatment of rheumatism, with serious consequences (*Jour. A. M. A.*, Dec. 12, 1914, p. 2148).

CYSTOGEN, CYSTOGEN APERIENT AND CYSTOGEN-LITHIA.—Cystogen is the therapeutically suggestive name applied to hexamethylenamin, by the Cystogen Chemical Company, St. Louis, Mo. By means of extravagant claims, unwarranted assertions and pseudo-scientific arguments the Cystogen Chemical Company advises the use of Cystogen Aperient or Cystogen-Lithia or all three in a well nigh endless number of diseases. The promoters take good care that every Cystogen prescription is likely to spread the Cystogen gospel among the people. In announcing the rejection of these products the Council on Pharmacy and Chemistry calls attention to the conservative discussion of hexamethylenamin which appears in its publication "Useful Drugs" (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

CYSTO-SEDATIVE.—Cysto-Sedative (Strong, Cobb & Co., Cleveland, Ohio) is said to contain thuja occidentalis, pichi, saw palmetto berries, triticum repens and hyoscyamus. Cysto-Sedative was refused recognition by the Council on Pharmacy and Chemistry because unwarranted and preposterous claims were made in regard to its preparation and because unwarranted therapeutic claims were made for this unscientific mixture (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

ERGOPIOL.—Ergopiol (Martin H. Smith Co., New York) is a mixture put up in capsules, each of which is said to contain Apiole (Special M. H. S.) 5 gr., Ergotin 1 gr., Oil Savin $\frac{1}{2}$ gr., Aloin $\frac{1}{8}$ gr. Examination indicated that each capsule did not contain 5 gr. apiole but an oleoresin of parsley seed. The recommendations in the advertising matter invite its indiscriminate use. The Council on Pharmacy and Chemistry refused to recognize this unscientific mix-

ture of ingredients which has widely differing therapeutic effects (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

APERGOLS.—Apergols, put out by H. K. Wampole Co., Inc., is apparently an inversion of the name Ergoapiol and the preparation appears to have essentially the same formula. In general the claims made for Apergols are the same as those made for Ergoapiol. The Council refused admission to Apergols because they are advertised indirectly to the public, because of unwarranted therapeutic claims, because of the non-descriptive name and because the product is unscientific (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

GASTROGEN TABLETS.—These tablets, recommended by the Bristol-Myers Co., New York, to be used in connection with its other nostrum, Sal Hepatica, are said to contain pepsin, calcium carbonate, calcium phosphate and "aromatics." As patients who need an antacid do not need pepsin and vice versa the preparation is unscientific and the therapeutic claims made for it unwarranted. Gastrogen tablets were refused recognition by the Council on Pharmacy and Chemistry (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

IODALIA.—Iodalia (Geo. J. Wallau, Inc.) is claimed to be a valuable substitute for iodides. Examination in the A. M. A. Chemical Laboratory indicated that when administered it would act like ordinary iodides and that to obtain the equivalent of 20 gr. potassium iodide it would be necessary to give the contents of a one dollar bottle of Iodalia. Particularly reprehensible among the many unwarranted claims made is one which suggests to the public that Iodalia will protect against infectious diseases. The Council voted that Iodalia be refused recognition (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

IODOTONE.—Eimer & Amend, who market Iodotone, state that it is a glycerin solution of hydrogen iodide, containing 1 gr. iodine to each fluidram. While Iodotone must act like ordinary iodides and while nearly one ounce of glycerin must be swallowed to obtain the equivalent of 10 gr. potassium iodide, the unwarranted claims are made that Iodotone is superior to iodides. Because of misleading claims and because the name Iodotone is likely to suggest its use as a general tonic, Iodotone was refused recognition by the Council on Pharmacy and Chemistry (*Jour. A. M. A.*, Dec. 12, 1914, p. 2149).

NOURRY WINE.—This wine, sold by E. Fougere & Co., is said to contain 12 per cent. alcohol and $1\frac{1}{2}$ gr. iodine to the fluidounce in combination with tannin. Examination in the A. M. A. Chemical Laboratory showed that its action would be that of ordinary iodine and that the non-production of iodism is due to the small amount of iodine it contains. Claims are made which are prone to lead to its use both by the profession and the public in conditions in which effective medication is called for. The Council on Pharmacy and Chemistry refused recognition to Nourry Wine (*Jour. A. M. A.*, Dec. 12, 1914, p. 2150).

WARNER'S SAFE REMEDY.—"Warner's Safe Remedy for the Kidneys and Liver and Bright's Disease" is reported by the A. M. A. Chemical Laboratory to contain alcohol, by volume, 14.40 per cent., glycerin, by weight, 7.72 per cent., potassium nitrate 1.75 per cent. and vegetable extractives. This preparation consists essentially of alcohol and potassium nitrate. Alcohol is contra-indicated in inflammatory diseases

of the kidneys and potassium nitrate is a kidney irritant. Sufferers from kidney diseases who take Warner's Safe Remedy will shorten their lives (*Jour. A. M. A.*, Dec. 19, 1914, p. 2246).

CYPRIDOL CAPSULES.—Cypridol capsules, sold by E. Fougere & Co., New York, are stated to contain mercuric iodide dissolved in oil. The Council on Pharmacy and Chemistry refused recognition to Cypridol capsules because they were sold under unwarranted therapeutic claims and because they were marketed in a way to appeal to the public. If the capsules are once prescribed the directions on the bottle and the full instructions for the treatment of syphilis which accompanies the bottle is likely to lead the patient to attempt to treat his malady on his own accord and thus probably forfeit his chances of a cure. Physicians who want to use a solution of mercuric iodide in oil, should have their pharmacist prepare it for them (*Jour. A. M. A.*, Dec. 19, 1914, p. 2247).

INTESTINAL ANTISEPTIC W-A.—The Abbott Alkaloidal Co., advertises Intestinal Antiseptic W-A as " . . . A scientifically blended and physiologically adjusted mixture, of the pure sulphocarbolates of calcium, sodium and zinc, grs. 5, with bismuth subsalicylate, gr. $\frac{1}{4}$ and aromatics." The Council on Pharmacy and Chemistry refused recognition to this proprietary because the formula does not indicate the proportionate amounts of the several sulphocarbolates, because the name is therapeutically suggestive and an invitation for the use of the preparation by the public and because exaggerated therapeutic claims are made for it. The claims which are made are most extreme; they contrast sharply with the low esteem in which the phenolsulphonates (sulphocarbolates) are generally held. It does not appear that the claims have been substantiated by proper evidence (*Jour. A. M. A.*, Dec. 19, 1914, p. 2247).

KELLER'S TUBERCULIN TEST PLATE.—This appears to be an attempt to exploit the Moro tuberculin ointment. The test does not discriminate between active and latent tuberculosis. As most adult persons have experienced tubercular infection at some time in life, a large majority of persons will respond positively to the test (*Jour. A. M. A.*, Dec. 19, 1914, p. 2250).

BOOK REVIEW

ABDOMINAL OPERATIONS. By Sir Berkeley Moynihan, M.S. (London), F.R.C.S., Leeds, England. Third edition, entirely reset and enlarged. Two octavo volumes totaling 980 pages, with 371 illustrations, 5 in colors. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$10 net; half Morocco, \$13 net.

This is the third edition of Moynihan's *Abdominal Operations*. It is not only a reset and enlarged edition, but greatly improved. No other book contains such a wealth of detail and none is so exact in describing operative procedures as they are practiced by the author, who has, of course, unconsciously absorbed and made his own the best which the literature on the various operations and the observations of the practice of others has furnished.

For both the beginner and for the man of experience this work is indispensable.

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ORIGINAL ARTICLES

THYROIDECTOMY UNDER LOCAL ANESTHESIA *

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The structures in the anterior region of the neck requiring surgical treatment are relatively superficial, and have a well-defined nerve supply. For these reasons they are particularly well adapted to operation under local anesthesia, and fortunately so, for operations on both the thyroid gland and the trachea are usually required under conditions in which general anesthesia is inconvenient and hazardous. Tracheotomy is often required when the operator is working alone, and the patient finds his supply of oxygen limited enough by his disease without having it diluted with a general anesthetic. The operation, too, is much simplified, because not only is the congestion reduced by the epinephrin but the additional hyperemia from the inhalation of a general anesthetic is absent. It is to the removal of the thyroid gland, however, that local anesthesia is most frequently applied. Danger from pulmonary and cardiac collapse are eliminated, and compression of the trachea is easily prevented or managed. Here even more than in tracheotomy the relatively bloodless field is to be appreciated, because it facilitates the avoidance of the parathyroid glands and the recurrent laryngeal nerve. The operator is much less likely to hurry the operation when working under local anesthesia than when he is apprehensive of the general anesthetic, and is able to work much more carefully. In hyperthyroidism all these advantages are of maximum value. Hyperthyroid patients may require some primary treatment on account of their nervous state, but in this, as in most of other operations done under

local anesthesia, they are apt to show as much poise and confidence as the operator does. With proper technic thyroidectomy becomes an ideal operation for local anesthesia.

Neural Anatomy.—The nerves to be anesthetized in operations upon the anterior portion of the neck are confined largely to the superficial structures. The most important are the cutaneous coli, which spring from the second and third branches of the cervical plexus, pass beneath the sternoid-mastoid muscle and curve over its posterior border (Fig. 1), and then extends forward under the platysma, supplying the skin of the anterior surface of the neck from the chin to the sternum. The auricularis magnus springs likewise from the second and third branches of the cervical plexus, passes around the posterior border of the sternomastoid and supplies the skin in the region of the angle of the jaw. These nerves likewise send twigs to the muscles in this region. The muscles in addition receive twigs from the spinal accessory and the glossopharyngeal. These latter nerves supply the fascia. The two principal nerves curve around the posterior border of the sternomastoid muscle near together at the level of the thyroid cartilage, and can be blocked with ease and certainty.

The deep nerves of the neck are of importance because they must be shielded from injury. They are the inferior or recurrent laryngeal, the superior laryngeal and the hypoglossal. The two recurrent laryngeal nerves after springing from the vagus on the right side in front of the subclavian artery and on the left, in front of the aortic arch wind beneath these vessels from before backward, and are then directed upward and inward to the groove between the trachea and esophagus. They reach the larynx by passing under the lower border of the inferior constrictor of the pharynx. In their passage upward they come in contact with the inferior thyroid artery, sometimes passing over it and sometimes between its branches when this vessel undergoes

* Read before the Jackson County Medical Society, Kansas City, Nov. 17, 1914.

early division. The superior laryngeal nerve springs from the ganglion of the trunk of the vagus, passes downward and inward and reaches the larynx by passing behind the carotid vessels. Its high position keeps it out of harm's way except where the thyroid is very large, and the thyroid vessels are displaced upwards, when it may be exposed in searching for the vessels. The hypoglossal is of importance only because of its descending branch.



Fig. 1.—Nerves supplying the superficial structures of the anterior surface of the neck.

This nerve may be encountered in the depth of the wound and may give the operator a fright lest he has severed the inferior laryngeal nerve. The interior of the trachea is supplied by twigs from the vagus mostly through the recurrent laryngeal and sympathetic.

Thyroidectomy.—The curved incision of Kocher is now used by most surgeons. It is of particular advantage in operating under local anesthesia because it gives free access to the gland without tugging.

The skin line is infiltrated first. For goiters of medium size the line begins over the sternomastoid of the side opposite the lobe to be removed, extends horizontally across the neck over the center of the isthmus of the thyroid, curving slightly upward to reach the outer border of the opposite sternomastoid at the level of the thyroid cartilage (Fig. 2). It is then continued upward toward the angle of the jaw (Fig. 3) as far as required for the particular goiter. The fascia and platysma are then infiltrated through this line. In very large goiters the muscles of the region have usually been pushed to one side so that they require no special attention. In moderate sized and

smaller glands the muscle layers should be infiltrated.

The chief nerves of the region are now blocked where they lie beneath the sternomastoid muscle. The line of infiltrated skin is pulled laterally until the needle can be passed through it behind the muscle, and the anesthetic solution is deposited at this point. The tissues behind the gland are now infiltrated by introducing a long needle through the same point, behind the carotid sheath and as far as the esophagus if possible.

In large goiters the sternomastoid muscle and the carotid sheath are displaced far outward and backward. In that event it is necessary to pass the needle anterior to the muscle and carotid sheath (Fig. 4) but behind the parotid. With care this can be readily accomplished even when the gland presents many irregularities and bosselations. Many goiters present very long extensions upwards. In one of my

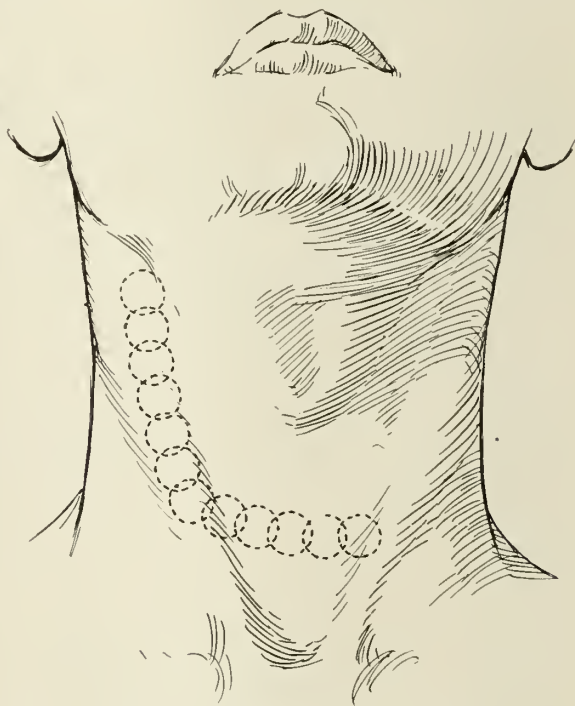


Fig. 2.—Line of superficial infiltration.

patients the tip of the lobe was plainly visible in the mouth beside the epiglottis. In such cases the infiltration behind the gland must be carried as high as possible. If the infiltration is carried as high as the superior thyroid vessels, any portion extending above this point can be shelled out without pain and without further infiltration. Failure to secure reliable anesthesia is usually due to a too timid infiltration of the deeper tissues of the neck. The carotid artery and the structures accompanying it can

easily be avoided by noting the pulsations of the vessel.

The tissue about the isthmus is then infiltrated by dislocating the line of skin infiltration first upward and then downward. The isthmus is next directly injected.

By the time these infiltrations are completed the original skin infiltration has produced an effective anesthesia, and the blood-vessels have become contracted from the action of the epi-

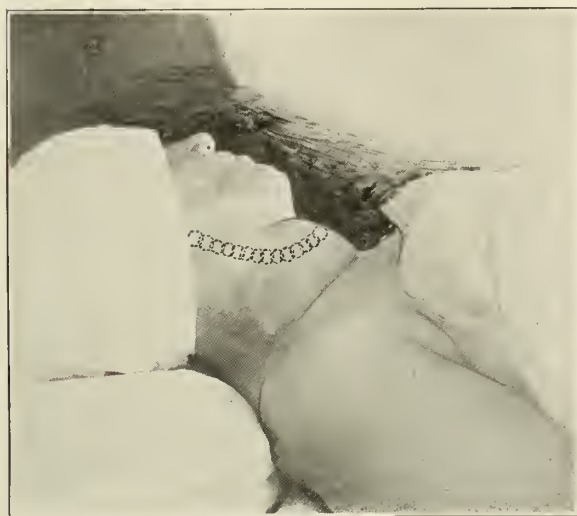


Fig. 3.—Line of skin infiltration in large goiters.

nephrin. This is an advantage which emphasizes the value of making the skin infiltration first instead of afterward as the German school has advocated. With the vascular constriction the small vessels are invisible, and the larger veins stand out in bold relief, and are to be carefully separated from the surrounding tissue, doubly ligated and cut. The platysma is then severed and if any bleeding points appear they are caught up and ligated at once before the incision is extended. The muscles in front of the thyroid are then severed unless they have been pushed out of the way by the enlargement of the gland. If any bleeding points appear, and usually they do not, they are ligated at once. If the incision is now found too short to expose the gland without undue traction it is to be enlarged.

The capsule of the thyroid is now carefully exposed, taking care to sever each fascial layer covering the gland. Often there are more layers than one expects. Care should be taken not to injure the vessels in the true capsule lest troublesome hemorrhage ensue. Too much attention cannot be paid to keeping the wound free from blood so that every structure may be recognized before it is handled. The success of the operation may depend on this.

The finger is now slowly and gently introduced between the lateral border of the tumor and the sternomastoid muscle. If the patient feels pain the operator must admit that he is still a novice at the art of local anesthesia and must resort to infiltration immediately about the tumor (Fig. 5). By gradually insinuating the finger between the tumor and the surrounding tissue the gland is dislocated and the superior thyroid vessels located. They are separated from the surrounding tissue, doubly ligated (Fig. 6), and severed. Less traction is produced by this means than by clamping, cutting and then ligating as most operators do when operating under general anesthesia. Often accessory lobulations confuse the operator either before or after the vessels are located. The upper part of the tumor is now separated from the surrounding tissue.

The tumor is now isolated toward the lower pole, a procedure which is much easier because of the vessel-constricting action of the epinephrin. By care the parathyroid glands may be avoided even if they are imbedded in depressions within the gland. As the gland is elevated the inferior vessels come into view (Fig. 7). If the separation of the lower pole is painful, infiltration may be made about the gland before proceeding. The vessels must be isolated before being tied so that the recurrent nerve is not caught in the ligature. This

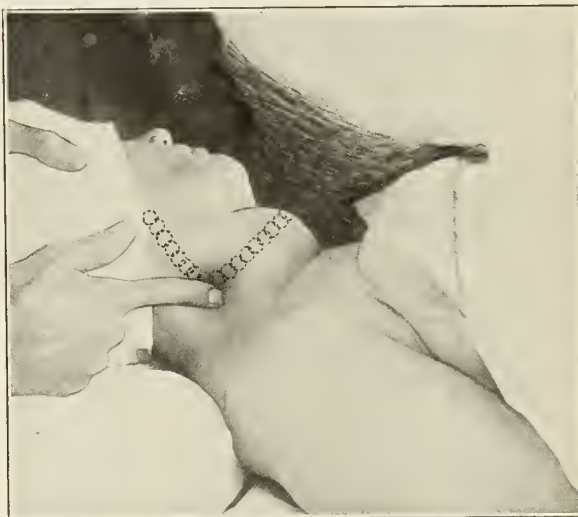


Fig. 4.—Point of injection for striking the tissues behind the gland.

accident is less likely to happen with the use of a double ligature than with clamps. Sometimes when the lower pole extends far down behind the sternum and clavicle one may have difficulty in reaching the vessels. Having the patient cough, as recommended by some German writers, in order to force the gland upward, I have found astonishingly effective.

When the goiter is thus propelled out of its deep seat the vessels are easily secured and ligated.

It now remains only to remove the gland from the trachea. In order to minimize the almost unavoidable choking sensation, the gland should be separated by using some blunt instrument rather than by forcible rotation of the tumor. The gland then remains attached only

produces slight disturbance in healing of the skin wound. By employing both drugs I have never been obliged to use more than 2 grains of quinin and urea and 5 grains of novocain with 8 drops epinephrin.

Patients suffering from hyperthyroidism are more difficult to operate on than those who have simple goiters. This is due in part to the fact that the glands, being usually small, are dislocated with difficulty, but chiefly to the nervous state of the patient. The former difficulty is met by infiltrating more carefully about the gland. In order to minimize the latter disadvantage, the patient must be properly prepared. Very nervous patients are placed in bed and proper rest secured by some means, moderate doses of bromids usually producing the desired result after a time. When the patient has become composed the question of the relative pleasantness of local and general anesthesia is discussed with her. Danger is not mentioned. After the patient has been convinced that local anesthesia will save her from nausea

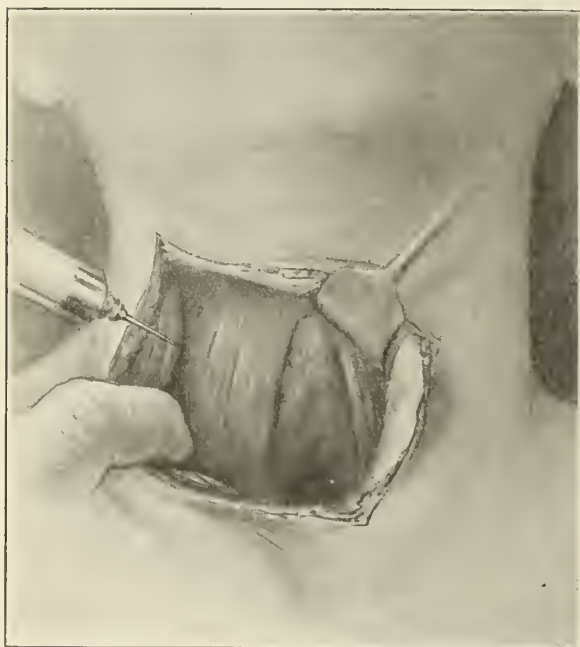


Fig. 5.—Deep infiltration about the upper pole of the gland.

by the isthmus, which if large is crushed with forceps and ligated, and if small may be ligated without crushing.

If the technic has been carefully carried out the removal of the gland leaves a dry bed and a wound unincumbered with forceps. To close the wound, the muscles are sutured into place and the superficial structures united in any manner that may suit the operator.

In ordinary goiters no preliminary preparation is necessary except an hypodermic of 1/6 grain of morphin. The skin is painted with iodine after the patient is on the table. Novocain-epinephrin is the anesthetic of choice. For the blocking of the nerves a 1 per cent. solution is preferable, while for the deeper infiltrations 1/2 per cent. or less is adequate. In very large goiters I use quinin and urea hydrochlorid in the skin and fascia, reserving the novocain for the deeper structures. Quinin when used in the muscles and loose tissues of the neck produces a thin reddish exudate which interferes with healing and may produce an annoying woody induration of the surrounding tissues which may last for weeks. It sometimes

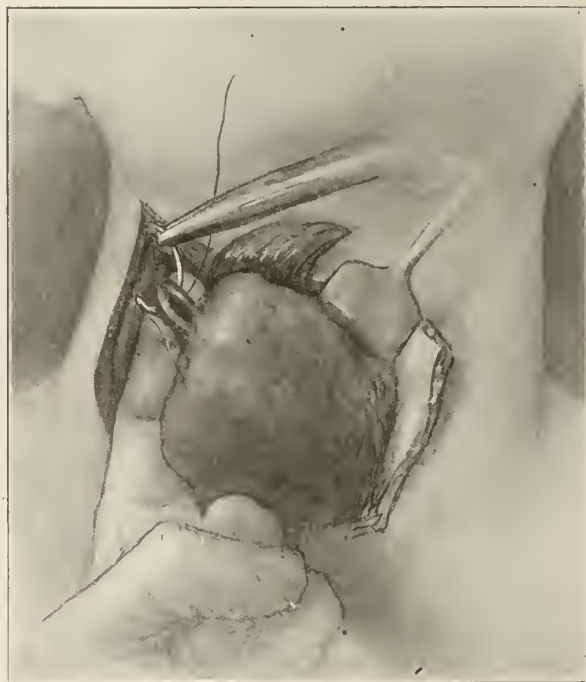


Fig. 6.—Ligation of the superior thyroid vessels.

the time of the operation is fixed. If she is not sleeping well she receives 10 grains of veronal the evening before. On the morning of the operation she receives morphin 1/6, with atropin 1/150 grain. If the patient has a friend who has been operated on under local anesthesia there is no need for parley, for she comes convinced of the advantages of the method.

No primary scrubbing or dressing is used. The patient is placed on the table in a comfortable position, with the head tilted back if she finds this comfortable; if not, the operator accepts the more difficult position. The trunk is slightly elevated. The operator sits comfortably beside his patient, neither being handicapped in conversation by mask or face covering.

The operation should be simply arranged. Noise should not be permitted. The fewer assistants the better, a single assistant for the surgeon and a nurse to run errands being all that are required. The easiest place to operate is in the patient's kitchen with the breadpan as a sterilizer and the kitchen cabinet as an

Blood which trickles over the side of the neck and shoulder and finally beats a tattoo in the sponge pan is very apt to elicit interrogatory remarks from exophthalmic patients.

The secret of success in thyroidectomy under local anesthesia is that the surgeon must not hurt the patient. The field must be completely anesthetized, and must be kept free from blood. The latter is impossible unless the former is realized because if the patient suffers pain the necessary delicacy in technic required to perform a bloodless operation is not possible. With all details mastered thyroidectomy under local anesthesia becomes an exceedingly satisfactory and simple operation.

Rialto Building.



Fig. 7.—Ligation of the inferior thyroid vessels.

instrument table. Six artery forceps, a knife, a pair of scissors, two needles and a perfect syringe with needles are all the equipment the surgeon needs. If he has no more apparatus than this there is less tendency to allow instruments to hang about the wound, tugging upon it and annoying the patient. The knowledge that he has but a limited number of forceps compels the operator to acquire the habit of starting but few points of hemorrhage at a time and ligating as soon as the vessels are caught up. Retractors are not needed and are objectionable because of the inevitable traction they cause on tissues outside of the field of operation.

This method of operating may require a little more time but it prevents loss of blood.

PAIN AND ITS SIGNIFICANCE*

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As pain is the most frequent symptom with which the physician, and more especially, the surgeon has to deal, it would seem that this symptom could not be pursued too far in detail. Our lack of knowledge of the origin, meaning and significance of pain is very considerable when we think how often we meet with it as a symptom. An accurate knowledge of the origin, character, duration and location of pain is essential to the making of a correct diagnosis in many cases. There are certain subjective sensations which are of much, although varying, importance in diagnosis. Although a subjective symptom does not constitute decisive evidence, it may furnish an important clew to the nature of the disease, *e. g.*, the "tender spot" in appendicitis. On the other hand, there may be an absolute absence of tenderness over the kidney in pyelitis and an occasional lack of pain in peritonitis, gastric ulcer, perforating duodenal ulcer, latent pleurisy and various pelvic lesions, by which a most important guide symptom is missing.

Difference in Susceptibility.—As pain is a purely subjective symptom, its intensity must be estimated by the statements of the sufferer, by the manifestations of its presence, and by the nature of any lesion which may be discovered as its probable cause. The variations in pain sensibility are very great, and are racial as well as individual. The Semitic stock and Celtic and Italian groups appear to possess an average greater sensibility to pain than the Teutonic and Slavonic groups. The most important variations, however, are personal or individual. The born neurotic patient will complain

* Read before the Southwest Missouri Medical Association, Springfield, Nov. 6, 1914.

bitterly of pain from a cause which in one of dull sensibilities will give rise to simple discomfort. The manner of life and occupation may modify the sensibility to pain. The habitual endurance of hardships blunts the pain-sense and, conversely, the person guarded from rude mental or physical contact will be more acutely sensitive to pain. A strong mental prepossession (religion, excitement of battle, etc.) may interfere with the registration of painful impressions on the consciousness. The sensibility to pain is apt to be increased by its long continuance, and it is a common observation that each recurrence of pain during the course of a disease finds the patient less able to bear it. Fright or expectant apprehension invariably increases pain and sometimes originates it. There are differences in the manner of statement. Some patients as a matter of pride seem to practice under-statement of their subjective sensations, while others from various motives habitually magnify their sufferings, and, in most instances, without the slightest intention of deceiving the examining physician. It arises largely from the unconscious egotism of illness and a desire to obtain relief by impressing the medical attendant with its pressing necessity. In estimating the severity of pain, the facial expression and bodily manifestations of pain are of much value. A statement made with a cheerful countenance, that the speaker is at the present moment suffering "horrible agony" does not coincide with the facts, and this combination is of diagnostic value as indicative of self-deception, hysteria or a habit of chronic emphasis. Women, perhaps more than men, are inclined to exaggerate in recounting their symptoms. The reason may be found in the greater susceptibility of the feminine nervous system and the larger measure of sympathy which a woman habitually receives. In the majority of cases in which really severe pain is present the respiration is rapid, the pupils are dilated, the skin is wet with perspiration, the pulse is apt to be tense, there is a feeling of faintness—symptoms which cannot be simulated. In all cases in which pain is a symptom a careful investigation should be made to discover any existing objective condition which may corroborate the truth of the patient's statement. In view of the fact that sad mistakes have occurred, it is best not to err on the side of skepticism, but to credit subjective testimony until some anatomical incongruity of distribution is found, or some sudden shifting of the seat of pain occurs which is incompatible with the ascertained objective symptoms and signs.

Varieties of Pain.—Pain varies in intensity from sharp to dull or aching pain. It may be radiating or darting from its point of origin along the branches of a nerve-trunk; or paroxysmal, reuniting, coming and going; or shift-

ing, moving from one locality to another; or possess the character indicated by the terms gnawing or colicky. There may be a sensation of boring, burning, piercing, lancing and throbbing from each pulsation. It may be increased by motion or relieved by pressure. Two or more varieties may coexist as a single pain symptom. Their significance may be indicated by the acute pain which is characteristic of acute inflammations of serous and synovial membranes, as in pleurisy or joint inflammations. Acute, radiating pain marks the idiopathic neuralgias or the nerve pain due to inflammation or pressure, as in neuritis or thoracic aneurysm. Dull pain, like that of a bruise, usually attends inflammations of mucous membranes and the parenchymatous viscera (which are poorly endowed with sensory nerves), and many chronic inflammations. Paroxysmal or radiating pain is characteristic of the neuralgias and colics. Shifting pain, more or less sharp, occurs in connection with rheumatism, hysteria, locomotor ataxia and trichinosis. Pain of a gnawing or boring character is found in disease of the spinal column, thoracic or abdominal aneurysm, periosteal or osteal inflammation, gastric cancer and sometimes in gouty lesions or lithemic states. Cramp is a sudden and painful spasm of certain muscles or muscle groups. Aside from the cramp due to overuse of special muscles (writers' cramp and occupation neuroses), and the cramp affecting the muscles of the calf and toes, the term is frequently applied to painful abdominal spasms (colic) due to excessive action of the muscular walls of the stomach and intestines. Abdominal cramp or colicky pain is a frequent accompaniment of flatulence and gastro-intestinal disease in general. It occurs in cases of intestinal obstruction from any cause, and as a result of irritant poisoning. Burning pain is found in herpes zoster, aching pain in lumbago or other myalgia. Throbbing or pulsating with the heart beat is found in circumscribed phlegmon, or suppurative inflammations. Tenesmic pain is that found in bladder inflammations. The acuteness or chronicity of pain corresponds largely to the suddenness of occurrence and the persistence of its cause. Pain may persist after the removal of its factors, apparently because the pain-habit has been formed by the affected nerves and their associated centers; but as a rule, pain extending over a long period of time indicates a continuance of the pathologic conditions from which it originated. Pain may be recurrent or periodic, days or weeks elapsing between successive attacks, as with migraine, or continuous with occasional exacerbations, as in headache from eye-strain. As a general rule, the seat of pain corresponds to the location of the causative lesion. In certain cases the pain is reflex or, more properly, trans-

tered, being assigned to the farthest peripheral termination of a nerve, when the causative lesion is situated at one of its terminations much nearer the origin of the nerve, or an irritation at the termination of one branch is felt also at the termination of a branch situated in a different locality, or the irritation may be at the origin of the nerve trunk and the pain referred to its entire peripheral distribution. If the pain is extremely intense, it may be felt not only in the direct nerve supply of the affected area but also in areas indirectly connected, a phenomenon assumed to be caused by irradiation, or an overflow of the painful impression from its accustomed channels. Even though the pain caused is not intense, a source of irritation may exist at one point and be felt at another, widely separated from the actual seat of the lesion. In all such cases the sensation is in reality a transferred or referred pain, and strictly speaking, cannot be termed reflex. The latter word implies the traveling of an afferent impression to a center, which center, in consequence of the received impulse, sends an efferent impulse. A transferred sensation is one perceived by the sensorium, not as belonging to its real source of origin, but which, because of the existence of indirect sensory connections along which the impression travels, is referred to an entirely different portion of the periphery. Not infrequently there may be pains felt in the periphery which are due to central disease of the brain or cord, as in meningitis. Pain or aching, general in its distribution, is encountered in the majority of febrile diseases, especially during the initial stage and is apt to be most pronounced in the acute infections of which epidemic influenza, variola and dengue are striking examples. Laryngeal tonsillitis exhibits it to almost as great a degree. It may be associated with syphilis, lithemia, rheumatism and some of the intoxications, as in mercuric and lead poisoning. General aching results, as a rule, from the action of a toxin or other poison in the circulating blood on the central or peripheral nervous system. Pain in the head is a symptom of diverse meaning and origin.

Headache is defined as an attack of diffuse pain affecting different parts of the head, and not confined to a particular nerve. Neuralgia (toxic, referred, pressure) is characterized by pain in the course of a nerve or nerves, generally unilateral. It is functional in the sense that no disease of the nerve itself may be present. Pain limited to a nerve tract may be due to neuritis. Migraine is a painful, periodical neurosis involving the trigeminus, but with certain symptoms which distinguish it from headache or neuralgia. The causes of pain in general in the head when we exclude the many forms of trauma, are anemia and sudden

hemorrhages, nephritis, constitutional diseases, diabetes, gout, lithemia, rheumatism, specific infectious diseases (mainly the fevers), intoxications (alcohol, lead, mercury and tobacco), neurosis, epilepsy, hysteria, neurasthenia and exophthalmic goiter, inflammations or organic diseases of, or affecting the nervous system, embracing arterio-sclerosis, disease of the cranial bones, meningitis, encephalitis, neuritis, syphilis and tumor or abscess, reflex or referred pain from disease of the eye, ear, naso-pharynx, stomach or sexual organs, fatigue, bodily or mental, impure air and acclimation. The location of head-pain is of considerable diagnostic importance. It may be diffuse or in varying combinations, as frontal, temporal, parietal, occipital or basilar. The most important varieties of headache which possess somewhat distinctive characteristics are, first, the anemic form, which is a sore and pressing pain usually felt in the forehead and orbital region, or in the vertex, and is often associated with occipital pressure and is generally found in connection with the general and special forms of impoverished blood; second, the headache of nephritis, except the sudden forms due to an attack of uremia, is in most cases caused by the arterio-sclerosis which so often forms an essential part of the chronic nephritides. The pain is apt to be of a throbbing character, sometimes shifting, often accompanied by vertigo and tinnitus; third, the typical headache of hysteria is a pain as if a nail was being driven into the top of the head (clonus), but is of comparatively infrequent occurrence; fourth, the headache of neurasthenia, probably the most frequent of all headaches which require treatment, is of a pressive character, usually vertical but sometimes described as a bale around the head. It is very characteristic by being almost invariably worse in the morning, becoming lighter or disappearing toward the latter part of the day; fifth, headache from turbinal pressure, either acute from rapid swelling, or chronic from hypertrophy or septal deviations, or from distension of the accessory sinuses of the nose, is felt as a pain beginning at the root of the nose and running directly backward to the occiput. It is greatly increased by coughing or bending over; sixth, ocular headaches are either frontal or occipital; the pain comes on in the majority of cases after the use of the eyes in close work, such as sewing or reading, and the nightly rest of the eyes renders the patient free from pain on arising; seventh, headache from constipation and digestive disorders is usually of a throbbing, pulsating character affecting the frontal and orbital regions, and is made worse by sudden movements of the head; eighth, headache from uterine disease is usually occipital, sharp and radiating. As headache is merely a symptom, a careful search should be

made to find the cause. It is of special importance to examine with reference to rheumatism of the scalp, periostitis, or caries of the cranial bones, the existence of nasal disease (particularly inflammation of the frontal or ethmoidal sinuses), ocular defects, gastro-intestinal disorders, anemia, arteriosclerosis, nephritis, neuralgia, migraine, hysteria, neurasthenia, epilepsy and organic diseases of the nervous system. Chronic headaches are usually due to neurasthenia, less frequently to ocular defects, anemia, syphilis or pachymeningitis, and rarely the cause remains conjectural. It is, of course, impossible to give in detail the multiple points which may be encountered clinically as evidences of disease of various organs or symptoms. There are many examples of pain which the clinician not rationally or to his own satisfaction can explain.

Pain from the nervous system is sharp, radiating, generally unilateral of the neuralgias. There is, furthermore, the pain of neuritis, multiple or localized; of neurasthenia or hysteria in the back of the neck, along the spine and sometimes in the heel, of locomotor ataxia, most atrocious and agonizing; and the rare, sharp, solitary pain below the knee which has been known as a premonition of cerebral hemorrhage. The cardiac pain which is important beyond all others is that of true angina pectoris, closely simulated by the pseudo-angina of anemic, gastric, hysterical or toxic origin. Valvular disease, especially of the aortic cusps, may cause pain in the right hypochondrium and right shoulder, and there may or may not be some sternal pain in pericarditis. Thoracic aneurysm may give rise to pain beneath the sternum or between the shoulders and in acute aortitis is responsible for breast pain. Abdominal aneurysm may produce general abdominal pain, sometimes acute, as well as pain in lumbar back and between the lower angles of the scapulae. The painful diseases of the stomach are ulcer and erosions in particular, less frequently, cancer, with varying degrees of intensity, gastritis, gastropexia, gastrectomia and various neuroses. The pain of gastralgia is generally atrocious and excessive, beginning in the epigastrium, frequently behind the lower sternum and between the shoulders, often in the right or left hypochondrium or posterior lumbar region, and may involve almost the entire abdomen. Pain in the intestines may come from colonic impaction, according to its seat, may cause pain in the right or left hypochondrium, or in the anterior, lateral or posterior aspects of the thigh; mucus colic and inguinal hernia in the groin, obturator hernia in the knee, cancer or ulcer in rectum and hemorrhoids in the coccygeal regions. The localized pain of appendicitis is well known. Flatus in the splenic flexure of the colon may cause precordial pain. Poisoning by mercury,

lead and arsenic, as well as acute enteritis and intestinal obstruction or perforation may initiate more or less general and severe abdominal pain. The pain-producing diseases of the liver are the functional disorders and cirrhosis, which may be moderately painful inflammation, and abscess and cancer which may produce intense suffering. It is from the gall-bladder and its associated ducts that the severest forms of liver pain originates—namely, hepatic colic. A particularly tender point which is of much diagnostic importance, is found at the ninth right costal cartilage as an evidence of an inflamed, impacted or cancerous gall-bladder, a gall-stone lodged in the common duct. Acute inflammation of the pancreas is usually attended with epigastric pain. The typical painful disorder of the kidney is renal colic. Pyelitis may cause pain, not only in the lumbar region but also, as the only algic symptom, above the pubes. A movable or float-in kidney is the source of much pain, which may become excessive if the ureter is twisted or kinked (Dietl's crises).

The painful diseases of bone which give rise to some confusion in the practice of internal medicine are spinal caries, rickets or arthritis deformans, causing pain in the back, the lateral walls of the chest, the epigastric region or generally diffused over the abdomen. A psoas abscess or malignant disease of the femur makes a painful thigh; a diseased sternum causes pain in the breast; disease of the hip-joint, a painful knee. The muscles are painful in pleurodynia, lumbago; cramps in the calves may be explained by too much walking or the presence of chronic nephritis, or toxic irritation of the nerves supplying the calf muscles.

It cannot be too strongly emphasized that the so-called "growing pains" of children are, in the great majority of cases if not in all, of rheumatic origin. In every case a careful watch should be kept for the evidences of endocarditis, or pericarditis. Neglect of this may result in serious valvular defects. These pains are in the muscles, rather than in the joints, and as a rule, are present only or are worse during damp weather. There is frequent soreness or tenderness to touch or pressure and stiffness of muscles of the entire body, generally from a rheumatic tendency, or may be from the infectious fever or specific conditions. It would be a great help in diagnosis if we knew the normal sensibilities of every organ and tissue in the body. Some work to this end has been done under local anesthesia. The sensibilities of many of the abdominal organs have been studied in this manner; the stomach, intestines, gall-bladder, urinary bladder, ureters and pelvic organs. Frequently, when palpating different parts of the body, especially the abdomen and pelvis, pain is caused in structures perhaps

in no way diseased, *e. g.*, pressure over the abdominal aorta, over deep nerve trunks, the ovary, etc. Most infrequently is an attempt made, by questioning the patient, to find out whether the pain produced has ever been experienced spontaneously under apparently normal conditions. If, while making an examination which causes pain by pressure over a tender area, the insufficient question, "Does that hurt you?" could be replaced by the more definite and helpful one, "Am I now causing the same pain of which you complain?" or "Have you had at any time the same pain which you now feel?" the knowledge obtained would be of far more value in reaching a diagnosis. This principle can be applied in many examinations, *e. g.*, in pelvic palpation, by gentle pressure or traction on the individual pelvic organs, pain peculiar to those organs may be reproduced. We must know something of the normal sensibilities before the pathologic can be appreciated, and all examinations made with the definite purpose of acquiring this essential knowledge will in time prove of the greatest value. A simple and very useful method of reproducing pain in making a diagnosis is that employed first by Professor Rovsing, of Copenhagen, by which pain in the vermiform appendix, appendicular colic is reproduced by making pressure along the descending colon in the direction of reverse peristalsis, thus forcing the gas back toward the cecum and appendix, distending those organs; confining the gas by pressure with the left hand, a sharp tap with the right hand over the distended transverse colon will reproduce the patient's pain in the cecum and vermiform appendix in cases of chronic and acute appendicitis. This method proved to be most interesting in making a differential diagnosis between an appendix abscess and a retroperitoneal and a perinephritic abscess. The same principle of reproducing pain can be applied in cases of suspected inflammation and ulceration of the sigmoid colon, in kidney disorders, urinary bladder, cystitis and many other conditions. Accuracy in diagnosis is always to be desired. Therefore, symptoms cannot be studied too minutely. By skilful, gentle manipulation of the individual pelvic organs, a familiarity with their sensibilities may be obtained along with the knowledge of their shape, size, position and consistency. Especially should the examiner be urged to acquire this accuracy of knowledge and to note carefully whenever he causes pain by his manipulations, exact nature and location of it and to inquire whether the patient had ever experienced that particular pain before. This applies especially to pelvic palpation where we wish to differentiate between appendiceal, ovarian, bladder or ureteral pain. The more we can learn by skilful palpation or careful tests of the sensitiveness of

each of these individual organs, the more readily will we be able to differentiate disease arising in each. With this knowledge, if we can reproduce the pain of which the patient complains, we will be in a position to judge from what organ the pain has arisen and to differentiate more accurately diseases with symptoms closely resembling each other.

THE PSYCHOSES ASSOCIATED WITH TABES DORSALIS*

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There is a wide difference of opinion regarding the frequency with which abnormal mental states develop in association with tabes dorsalis, and especially are opinions discordant when the relationships which such psychoses bear to the tabetic process are brought under discussion. It is not within the purpose of this paper to enter into a detailed consideration of the relation of tabes to paresis—the clinical and anatomical similarities and differences which exist—but rather to restrict the field more particularly to those psychotic states which have been spoken of as non-paralytic tabetic psychoses.

In considering this group it is necessary, however, to speak briefly of taboparesis, and, in view of our comparatively recent, extended knowledge of syphilitic diseases of the nervous system, to consider most carefully the subject of cerebral syphilis with its mental manifestations and the possibility of their occurrence in connection with tabes dorsalis.

Outspoken psychoses of any type whatsoever, occurring in association with tabes dorsalis, are comparatively infrequent. This assertion becomes self-evident when we compare the number of persons suffering from tabes with the surprisingly small number of tabetics admitted into psychopathic hospitals because of the necessity for treatment of mental disorder. It is stated¹ that 6 per cent. of paretics show a well-developed tabes dorsalis. The non-paralytic tabetic psychoses comprise 0.3 per cent.² of all admissions, or, 5.2 per cent. of all tabetics admitted show such a mental disorder.³ A statement not infrequently met with is that all tabetics will show eventually some mental deterioration, a more or less evident dementia. However, most observers would not make this claim all-inclusive. There are many tabetics who, not only do not dement, but retain a men-

* Read in the General Session of the Missouri State Medical Association, at the Fifty-Seventh Annual Meeting held at Joplin, May 12-14, 1914.

1. Cassirer: *Tabes und Psychosen*, Berlin, 1903.

2. Siemerling: Cited from Cassirer.

3. Moeli: Cited from Cassirer.

tal ability even above that possessed by the average normal individual. It is indeed extremely doubtful that in the late stages of tabes a dementia supervenes unless this be dependent upon a beginning paresis or cerebral syphilis, or possibly upon some other organic disease of the brain.

Now the question arises: Are we justified in assuming that the so-called non-paralytic tabetic psychosis constitutes a definite disease entity clinically or anatomically, and, if so, by what characteristic symptomatology is this psychosis to be identified? The mental disorders which may occur in the course of tabes dorsalis may be classified in three groups: first, elementary psychic disorders; second, veridical, non-specific psychoses, and third, syndromes dependent on a cerebral localization of the syphilitic process, that is, paresis or cerebral syphilis.

Regarding the first we shall have little to say. There are among these elementary disorders to be mentioned especially the emotional variations. In the second place, the mild, often indefinite, impairment of memory and the tendency toward ready fatigue are often noteworthy features. Certain similar neurastheniform states have been described in the symptomatology of cerebral syphilis⁴ and especially noted as a not uncommon prodromal stage of that disease. There are constitutional psychopathies which predispose an individual to frank mental upsets which do not occur in more normally constituted mental organizations under similarly unfavorable circumstances,⁵ and on the other hand, it has been observed^{6,7} that the symptomatology of certain nervous system disorders may be greatly modified by a subsequently acquired syphilis. As opposed to this affective tone of mild depression, indifference and apathy, we find some tabetics who exhibit a varying degree of exaltation, who look on their troubles lightly and view their serious condition indifferently—these cases unavoidably reminding one of the common parietic euphoria. It is a common observation that such euphoric states are not unknown in other chronic, hopeless diseases, notably in tuberculosis and carcinoma at certain stages. The possibility of an underlying constitutional psychopathic trend upon which tabes has been engrafted must be borne in mind as such a fundamental deviation could easily and well explain the elementary mental disorders which are seen to develop in these cases. Nochte⁸ has particularly called

attention to the frequency of these mild disturbances and especially does he emphasize the occurrence of depressive states.

Of the true psychoses which may accompany tabes dorsalis, paresis is the most frequent and it has been claimed that all such psychoses are parietic. On the contrary, it is maintained that there are outspoken psychoses in tabetics which in their clinical form, course and outcome differ from paresis. With what possibilities may we here have to deal? At least two seem logically inevitable. First, the psychosis may be entirely adventitious in character, or, second, it has been assumed that it may be dependent on, and characteristic of, tabes dorsalis. In the first instance we have to deal with psychoses which owe their origin to some additional factor other than syphilis, such as hereditary or environmental influences, psychopathic states or intoxications. Aside from cerebral syphilitic disorders, tabes dorsalis does not predispose the individual to mental disease, while on the other hand, neither does it protect from any known type of psychosis. Thus we may meet in tabes with manic-depressive, catatonic, paranoid and senile psychoses, besides those due to exogenous toxic agents, such as alcohol, morphin or cocain. The careful evaluation of the coincidental or causal relation of the syphilitic infection is here of the greatest moment in the determination of the accessory character of the psychosis in question.

But aside from these above mentioned adventitious psychoses it has been asserted repeatedly, especially in the German and French literature, that there do occur certain mental disturbances, which though rare, are definitely characteristic of tabes dorsalis and are, therefore, properly designated as non-paralytic tabetic psychoses. What relations may the tabes bear etiologically to these psychoses? First, the two diseases, the physical and the mental, occur on a common soil, a nervous system become syphilitic and possibly before then in unstable equilibrium from constitutional neuro- or psychopathic taint. Second, tabes dorsalis as a chronic disease of the nervous system may occasion an imperfect functioning of other body systems with resulting malnutrition, weakening and lowered resistance. Third, the physical condition may in part exert its influence by acting as a basis for the development of delusional trends. Fourth, it has been assumed that there may be a particular variety of tabes which is prone to show combinations with mental disorder. These assumptions have not been shown adequate to explain the occurrence of the psychosis which we are here considering. Such relationships, though they may frequently exist, can be looked on as but superficial and of secondary importance.

4. Jolly: Syphilis und Geisteskrankheiten, Berl. klin. Wehnschr., 1901, xxxviii, 21.

5. Meyer, E.: Untersuchungen des Nervensystems Syphilitischer, Berl. klin. Wehnschr., 1907, xlv, 943.

6. Czarniccki: Demence precoce et syphilis, Arch. Internat. de Neurol., 1910, 7s. I, 242, 305.

7. Barnes: Mental Disorders Associated with Brain Syphilis, Amer. Jour. Insanity, 1912, lxviii, 633.

8. Nochte: Die Behandlung der Tabes, speziell ihrer rudimentären Form, und deren Beziehungen zu psychopathischen Störungen, Deutsch. med. Wehnschr., 1913, xxxix, 999.

Of this supposedly specific tabetic psychosis certain features of the symptomatology have been emphasized as distinctive—paranoid delusions, terrifying hallucinations, anxiety and fear are prominently mentioned. There is an acute onset with hallucinations and delusions in the foreground. The delusional ideas have a decidedly paranoid coloring and the hallucinatory experiences are largely in support of the delusional belief. All senses may be involved, voices threaten and accuse, poison is tasted in the food, disagreeable tactile sensations are experienced. There is usually marked restlessness and the affect is one of acute fear and anxiety. In certain cases depression with dullness and apprehension, is more marked. Transient hallucinatory states of extreme acuity and spoken of as "hallucinatory crises" sometimes may be noted. The course and duration of the psychoses are variable. The episode may be but transient or may last for weeks or even months, then assuming the aspect of a more chronic disorder with fallacious sensory perceptions and associated paranoid and megalomaniac ideas. The termination may be abrupt but frequently an apparent ending proves but a temporary remission and recurrences are met with commonly. Insight on recovery is usually inadequate.

In this psychosis, in contradistinction to general paresis, it is stated that we have not here the progressive course, dementia reaches but a minor degree, retention and memory are less impaired and there is less confusion. The physical signs of paresis are absent, especially disorders of speech and writing, and seizures do not occur, whereas the physical signs and history of *tabes dorsalis* are in the foreground. The numerous hallucinations are not in favor of the parietic syndrome⁹ and at necropsy the lesions of paresis are not found.¹⁰

It should be said that it is not uniformly agreed that this symptom complex is characteristic of *tabes dorsalis*, those^{11, 12} who oppose this assumption maintaining that though we possibly cannot assert that the coincidence is merely casual, yet the mental symptoms are of so heterogeneous a nature that they do not warrant our speaking specifically of a characteristic tabetic psychosis. Among some of the more recent writers, Truelle and Cornet¹³ deny the existence of a peculiar tabetic psychosis believing that in such cases cerebral lesions differing only quantitatively from those of general

paresis will be found. Also, Burr¹⁴ does not mention the possibility of a specific non-paralytic psychosis, but reports several cases where a number of etiological factors besides *tabes* appeared to be active—the psychoses in these cases occurring more or less as mere coincidences.

The exponents of the purely tabetic psychoses^{15, 16} lay stress upon the similarity which these psychoses bear to certain acute alcoholic paranoid states. Aside from the fact that we not infrequently, in these patients, have to deal with persons who are not only syphilitic but also alcoholic, what help does this suggested similarity in the clinical symptoms offer? By some the tabetic psychoses are looked upon as a toxic-organic cerebral reaction and we have equally sufficient, if not greater, reason for thinking the alcoholic reaction is of a similar character. There is another condition in which the analogy is perhaps even closer—in those cases of pernicious anemia with mental and nervous disorders. The spinal cord lesions of pernicious anemia have long been known and psychoses associated with this disease have been described.¹⁷ In the earlier cases, where the spinal cord was especially involved, the pathology and symptomatology were so similar to *tabes* that the true nature of the condition was entirely overlooked. In those instances where mental symptoms were present it has been assumed that we had to deal with purely toxic psychoses, the toxin being of an unknown character and identical with that which caused the anemia. Quite recently, however, it has been shown¹⁸ that in the brains of those persons who have suffered from a psychosis associated with pernicious anemia, there are to be found certain anatomical changes of a pathologic character in the cells of the cerebral cortex and it is considered that these are to be regarded as the evidence of a toxic-organic process directly comparable to that with which we meet in *tabes dorsalis* and alcoholism. A further analogy between these cases is seen in the symptomatology—in *tabes*, cerebral syphilis, alcoholism and pernicious anemia a most frequently met with mental symptom complex is an hallucinatory paranoid state with some depression and anxiety.

Paresis coexisting with *tabes dorsalis* has long been recognized, but that cerebral syphilis may likewise occur and give rise to mental symptoms apparently has not been so fully appreciated. This brings us to the consideration of the third group of psychoses which may be

9. Barnes: Hallucinations in Paresis, *N. Y. Med. Jour.*, June 28, 1913.

10. Henderson: *Tabes Dorsalis and Mental Disease*, *Rev. of Neurol. and Psychiat.*, October, 1911.

11. Bornstein: Cited from Henderson.

12. Meyer, O.: Cited from Henderson.

13. Truelle et Cornet: *Les Troubles mentaux dans le Tabes*, *Ztschr. f. d. gesamte Neurol. und Psychiat.* (Ref.), 1914, ix, 467.

14. Burr: *Insanity Other than Paresis in Locomotor Ataxia*, *Amer. Jour. Insanity*, 1914, lxx, 551.

15. Kraepelin: *Psychiatrie*, 7 Auf., 1904.

16. Régis: *Precis de Psychiatrie*, 3d ed., 1906.

17. Barnes: *The Neurological Manifestations of Pernicious Anemia*, *Jour. Mo. State Med. Assn.*, 1914, x.

18. Barrett: *Mental Disorders and Cerebral Lesions Associated with Pernicious Anemia*, *Amer. Jour. Insanity*, 1913, lxi, 1063.

associated with *tabes dorsalis*—those mental syndromes dependent upon a cerebral localization of the syphilitic process, that is, paresis and cerebral syphilis.

The paretic syndrome is well recognized in those cases designated by the term *taboparesis*. However, it has not been too clearly understood just what is to be included under this term. In from 16 to 24 per cent. of cases of general paresis, *tabes-like* lesions are to be met with in the spinal cord and some¹⁹ go so far as to claim that cord changes, degenerations in the posterior or lateral columns, or in both, occur in every case of paresis. But in the large majority of these cases the clinical history is not that of *tabes dorsalis*—ataxia and hypotonia are not greatly developed, girdle sensations and crises rarely occur, optic atrophy, as compared with true *tabes*, is infrequent. Binswanger²⁰ states that one-fifth of all paretics show some tabetic symptoms but that it is not justifiable to speak of a true *tabes dorsalis* when only a single symptom, such as pupillary anomalies or absent knee jerks, is present but that in addition ataxia, sensory disorders, crises and optic atrophy are necessary for the diagnosis of *taboparesis*. For the moment laying aside the question of the existence of a monosymptomatic *tabes*, at least for clinical purposes, seems advisable to adopt Binswanger's attitude. The term *taboparesis* should be reserved for those cases in which a frank *tabes* and paresis develop in the same individual. Where only isolated signs of *tabes* appear in an evident paretic it is best to designate this by speaking of the tabetic type of paresis. Although paresis and *tabes* may develop coincidently, or the former may precede the latter, it is far more common to meet with *taboparesis* in those individuals who have suffered from typical attacks of the spinal cord disease for years, on the average a decade, before the symptoms of paresis appeared. The development of *tabes dorsalis* after the paresis is well inaugurated is exceptionally rarely observed. However, *tabes* and general paresis are so closely allied, both in causation and pathology, that we might expect to find all gradations of combinations of the two processes—from *tabes* with only slight mental symptoms of paresis to paresis with no symptoms of *tabes*—and thus the distinction between the two is more quantitative than qualitative.

We have to consider lastly the occurrence of cerebral syphilis in the tabetic. The wide variety of abnormal mental states that may accompany cerebral syphilis has only comparatively recently been emphasized and possibly in this newly acquired knowledge of the psychopathology of brain syphilis we may profit-

ably search for additional explanation of the symptoms manifested by those tabetics suffering from a psychosis. Syphilitic processes may, and not infrequently do, develop in the tabetic. Cassirer calls attention to the difficulty of differentiating the mental symptoms dependent upon syphilis from those of paresis but he had in mind particularly the occurrence of syphilitic pseudo-paresis and took into consideration no other type of syphilitic psychosis. The difficulty of differentiating between general paresis and certain types of cerebral syphilis is one which has only comparatively recently come to be given more nearly adequate attention, both by the clinician and the pathologist. As it was formerly held that *tabes dorsalis* and paresis represented two entirely dissimilar processes pathologically, so also, up until quite recently, has it been maintained that cerebral syphilis and general paresis were quite different anatomically, that we have two absolutely distinct processes but that there was no reason why they might not coexist in the same brain.^{21, 22} Our present conception of the question²³ is that in these diseases we have to deal with practically identical processes, anatomically, but that there occur important differences in the distribution throughout the brain tissues—that the syphilitic and so-called *parasyphilitic* lesions are but distinct varieties of the same general process. According to this view, paresis, *tabes* and cerebral syphilis are to be looked on as different forms of syphilitic reaction but not as essentially different processes. *Tabes dorsalis* forms a link between paresis and the late forms of syphilitic meningitis and serves to strengthen the belief that no real borderline exists between them. If cerebral symptoms appear in a case beginning as *tabes* we may find post mortem a reaction in the brain, either of the type of general paresis or of the syphilitic type and the changes are best understood not by assuming the introduction into the brain of another disease process foreign to the tabetic process but rather as an enlargement of the field of action of the same agent which produced the *tabes*. It would appear that along these lines we will find our best explanation of the so-called non-paralytic tabetic psychoses.

It has been shown^{7, 24, 25} that the psychoses associated with brain syphilis, the syphilitic psychoses for short, present no characteristic mental symptom complex. Depression, anxiety and

21. Schroeder: *Luetische Erkrankungen der Zentralnervensysteme*, Med. Klin., 1910, vi, 2035.

22. Sträusler: Ueber zwei weitere Fälle von Kombination cerebraler, gummöser Lues mit progressiver Paralyse, us, *Monatschr. f. Psychiat. und Neurol.*, 1910, xxvii, 20.

23. Dunlap: Anatomical Borderline Between the So-called Syphilitic and Metasyphilitic Disorders in the Brain and Spinal Cord, *Amer. Jour. Insanity*, 1913, lxi, 1045.

24. Wille: Die Syphilitischen Psychosen, *Allg. Ztschr. f. Psychiat.*, 1871-2, xxviii, 503.

25. Barnes: The Syphilitic Psychoses, *Med. Record*, Oct. 19, 1912.

19. Fürstner: Cited from Cassirer.

20. Binswanger: Cited from Cassirer.

paranoid states are commonly observed. Also, acute, semi-delirious confusional states with exquisite hallucinatory disturbances occur. The fidelity with which these varied psychotic states may simulate many other non-luetic mental disorders not infrequently may give cause for considerable difficulty in an accurate diagnosis.²⁶ These syphilitic psychoses may be of sudden or gradual onset, the course may be variable with remissions of varying duration prominent, recovery may occur without demonstrable intelligence defect²⁷ and with variable insight, or they may proceed in a variable course over a long period of years. In this connection it must be remembered that mental disorders of varied type may be associated with the effect of syphilis on the brain where the apoplectic or focal signs may be entirely absent, or only occur at a time when the disease is clinically far advanced. Certain criteria have been set up to aid in the recognition of psychotic states arising on a syphilitic basis and they are of considerable importance in the differentiation of these psychoses from others. Because of the variability in the clinical manifestation of the syphilitic psychoses, together with the possibility of cerebral syphilis developing in the tabetic, considerably more proof than has yet been adduced is essential before we are justified in assuming that a given psychosis is characteristic of tabes dorsalis.

That the difficulty of recognizing the mental manifestations of cerebral syphilis, or the possibility of their occurrence in tabetics, has not been fully appreciated is easily seen in some of the papers dealing with the supposedly characteristic tabetic psychosis. Henderson has reported several cases as typical non-paralytic tabetic psychoses. He recognizes that every imaginable mental symptom complex may occur in general paresis but does not mention a similar possibility with cerebral syphilis. That these supposedly typical tabetic psychoses eventuate sometimes in paresis has been shown²⁸ and Henderson's third case at necropsy was found²³ to be a case of syphilitic meningitis, especially basal but with involvement of the medulla and cord. In the first two cases reported in Henderson's paper there are no mental symptoms which might not equally well have been due to brain syphilis and there seems to be no valid reason for the assumption that they were peculiar to the tabetic process. As has been pointed out above, the symptoms of the syphilitic psychoses in many instances have many points in common with those described as characteristic

of tabes dorsalis and it seems useless to search so far afield for the cause of the tabetic psychosis when the causal factor may be so easily found in a brain syphilis.

In conclusion, it appears that there are sufficient reasons, both anatomical and clinical, for the belief that we have no characteristic, non-paralytic psychoses. Tabetics are subject to mild mental disorders, pre-eminently depressions, just as are other individuals of a fundamentally psychopathic makeup when afflicted with a severe, chronic physical disease. Also, tabetics may develop any type of functional or organic disease of the nervous system without any association of this with the tabetic process itself. The psychoses which occur in association with brain syphilis may present the symptom complex which has been described as characteristic of the typical non-paralytic tabetic psychosis. And finally, it should be emphasized that, in addition to paresis developing in a tabetic, cerebral syphilis also may occur and give rise to acute or chronic mental disorders.

Humboldt Building.

DISCUSSION

DR. M. A. BLISS, St. Louis: I think Dr. Barnes has rendered us good service in calling our attention to certain facts in regard to mental disturbances. It has struck me that there is a constant tendency to denominate as syphilitic all mental disturbances occurring in those who have syphilis. He has called attention to the fact that we may have mental disturbances of all kinds. We may have, for instance, syphilis in a dementia precox; we may have syphilis in a manic-depressive subject; so when we speak of the possibility of cure of the syphilis we still have the underlying constitutional groundwork which is not in any way affected by the cure of the added syphilis. The discussion in the last few years has served in a measure to wipe out the line formerly so rigidly fixed between active syphilitic processes and so-called "parasyphilitic" processes. In the International Conference in London last summer, there was a distinct tendency to neglect the term "parasyphilis," as it has been found by pathologists practically impossible to differentiate between so-called parasyphilitic brain diseases and so-called direct syphilitic brain diseases. It seems to me that a rather hopeful note in this is the fact that they are essentially the same processes, so we may, when we get them early enough, influence them very much by treatment. The well established cases of paresis and of tabes are very little amenable to treatment either by salvarsan, whether given intravenously or by the Swift-Ellis method or by mercury, or by other means of treatment; but, undoubtedly, the tendency to wipe out the line between direct syphilitic processes, like cerebral syphilis and parasyphilitic conditions has served to give us a more hopeful note in treatment.

The subject of Dr. Barnes' paper, I think, is perhaps a rather technical one, but I am quite sure that I have seen a few of the large number of tabetics who do develop a psychosis. However, it has occurred to me that the psychosis might possibly have occurred had the tabes not been present. The point, I think, to remember in making a diagnosis is, that all mental disorders occurring in syphilitics are not due to the syphilis.

26. Barnes: Errors in the Clinical Diagnosis of Mental Disorders Associated with Cerebral Syphilis, *Arch. of Diagnosis*, October, 1912.

27. Westphal: Manisch-depressives Irresein und Lues Cerebri, *Allg. Ztschr. f. Psychiat.*, 1908, lxx, 829.

28. Masoin: Cited from Henderson.

DR. BARNES (closing): I did not wish in presenting this subject to bring out particularly a discussion of the differences between paresis and cerebral syphilis, looking on the former as the type of what we have formerly called "parasyphilitic diseases," because I think, as Dr. Bliss has pointed out, that other than from the pathological point of view we have no further reason for assuming that there is any such thing as a parasyphilitic disease. It forms a convenient clinical term, but pathologically considered it has no foundation on the anatomic lesions which are found in cerebral syphilis and paresis, the cellular exudates by which we can fairly well characterize these two diseases are identical; the only difference is in the distribution. The exudate in cerebral syphilis follows more the vascular structures dipping down from the pia mater along the connective tissue-supporting structures, whereas the exudate in paresis affects primarily and particularly the cortex, the cellular elements. That these are essentially identical processes, differing only in variety and distribution, is shown by the fact that we may find the two varieties of lesions in one and the same brain. The syphilitic pseudoparetic states are the ones which offer almost insurmountable difficulties from the clinical standpoint. You cannot tell one from the other, very frequently, clinically; and also at necropsy it is not infrequent that the pathologist has difficulty in the differentiation.

The other question, which was brought out by Dr. Woodson, regarding the 95 per cent. of the cases being due to syphilis, it will not be exaggeration if we say one hundred per cent. Paresis is always and invariably due to syphilis, and there is no need of leaving that 5 per cent. loophole any longer.

The point that Dr. Bliss dwelt on, the question as to whether or not an individual who has syphilis necessarily is suffering from a psychosis dependent upon this affection is one which must always be borne in mind. There is no reason whatever for supposing that in a case of dementia praecox with syphilis we have a syphilitic psychosis. They may coexist, and the determination of whether we have to deal with the coexistence of syphilis and functional mental disease is one which must be constantly borne in mind in all cases. A positive Wassermann reaction with the blood may serve to arouse suspicion and to raise before the mind the possibility that you may be dealing with a syphilitic psychosis.

The question touched on by Dr. Unterburg, and the one which I particularly wished to bring out, is that we do not have in tabes any psychosis which we may consider characteristically typical, the so-called typical non-paralytic tabetic psychosis. We are all well acquainted with cases of taboparesis, but that all tabetics show evidence of mental deterioration I doubt very seriously. I do not think we can prove that. I do not believe that such is a clinical observation that can be supported. I am sure that we have all in our time been acquainted with tabetics who have possessed wonderfully acute and keen minds, even up to the death from some other cause. However, we do have mental disorders associated with tabes the same as with any other severe chronic physical disease. Here, however, we have to bear in mind the underlying, fundamental psychopathic trait of the individual. Given such a person, with a nervous system in unstable equilibrium, it would not be at all extraordinary or surprising to find that individual, becoming a tabetic, develop certain mild mental disorders, not necessarily an outspoken psychosis, as a result of his worry over his condition. The fundamental psychopathic taint in his nervous system is responsible for the development of these mild mental disorders which are preeminently of a depressive character. These, I think, are not infre-

quently met with; they are not such states as require treatment in a hospital or institution for the insane, but simply those mild disorders such as we see in association with other serious physical diseases.

Regarding the first question brought up by Dr. Woodson, as to the occurrence of gummata and meningeal involvement in paresis, I would say they most certainly do occur and have been found in many cases. That point I possibly did not make clear a few moments ago when I said you may find, not infrequently, evidences of cerebral syphilis and paresis in one and the same brain.

Regarding the effects of treatment, also, Dr. Woodson is quite correct. We do get good results frequently in cases of cerebral syphilis, but I have yet to see a case of paresis get well. That has been explained recently from the pathological point of view by a consideration of the nature of the lesions with which we have to deal and the nature of the distribution of these lesions. The fact that we do sometimes get good results in cerebral syphilis has been deemed due simply—at least, this hypothesis has been put forth—to the fact that in this condition we have a lesion so affecting the vessels as to make them more permeable to the antisymphilitic treatment, whatever the character of this may be; whereas in paresis we do not have these lesions of the blood-vessels at all prominent and the antiluetic agents do not get through to the seat of the disease.

THE PERVERSIONS OF CONSCIOUSNESS IN MENTAL DISEASES*

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This subject cannot be easily exaggerated for it deals fundamentally with the vast majority of all medicolegal cases, that is, to determine the degree of accountability or responsibility for some personal act, and while it is a primary subject that can be demonstrated in the various psychoses and should be well grounded in our own consciousness, the lack of this knowledge more than anything else has brought medical expert evidence into disrepute, as shown by the various opinions given, numerically as great as the witnesses in attendance.

This subject belongs to psychiatry, a branch of general medicine, and is therefore an appropriate topic for any medical body to consider. It is a fact that according to the degree of one's familiarity with a subject is his power to impart it to others understandingly; and if we are not clear in the presentation of this, please bear in mind that the last word has not been said by our psychiatrists and there is yet much to learn before one can dogmatize, for what information we have has come largely through theorizing and acceptance by exclusion rather than by anatomic findings or preconceived ideas. We possess special faculties in the cerebral cortex which consist probably of groups of

* Read in the General Session of the Missouri State Medical Association, at the Fifty-Seventh Annual Meeting, held at Joplin, May 12-14, 1914.

highly developed sensitized cells, known as mental processes, whose function it is to receive, store up and elaborate impressions or stimuli. And a sensitive nerve to carry these impressions to these processes is all-essential for their development. While the operations of these processes are indefinable, as mind is indefinable, they are of no single function but are dependent upon the integrity of all the associative mental faculties which constitute the complex personality. These processes, not to be isolated, are of slow growth and reach their maximum only at maturity. The word consciousness will grow and expand as you study it. It cannot be defined. If it were possible to standardize a perfect mentality there would be found the operations of perfect consciousness.

It is a relative term when applied to mental and nervous diseases. And a disturbance of consciousness does not necessarily imply any lack of response to a given sensory stimulus.

New psychiatry is at variance with the old which taught us that mental faculties were independent of one another, and that the brain did not operate as a whole. Such a theory could consistently invent the term *mono-mania*. While the frontal lobe of the brain is referred to as the higher psychical center, intellection involves the function of the whole cerebrum and mental capacity infers this.

Consciousness not only stands in direct relationship to the primary faculties of thinking, feeling and acting, but with the various nervous elements or integers that enter into the perfection of these faculties, which is repeating Minot's dictum that "consciousness stands in immediate causal relationship with physiological processes"; per contra, anything not physiological, any abnormality of function within the brain, even defects in any subsidiary process that detracts from an harmonious whole, will affect it as we would expect when we become impressed with the fact that consciousness most nearly represents the highest expression of normal mentality. Wernicke has proposed a three-fold division of consciousness.

1. The function upon which the idea of self or individuality depends. (*Auto-psychic consciousness*.)

2. Those that give us a knowledge of our own bodies. (*Somato-psychic consciousness*.)

3. The sensation that reveals to us the external world. (*Allo-psychic consciousness*.) Often two or more of these are affected in a psychosis and primarily, all defects of intellect or judgment are necessarily associated with defects or changes in consciousness.

Many minor nervous states are capable of making, temporarily, wide excursions into ab-

normal realms, affecting the personal equation of which my subject deals, and the horoscope of perfect understanding is obscured. Normal mentality must first take into account the reception of a stimuli, retention, and the elaboration or digestion of the same and its emission or response, which concludes the perfect operation of afferent or efferent impulses; and in proportion to the normality of this function can we estimate the capacity of it, or express better "between the stimuli on the one hand and the motor response on the other, there is represented the degree of reaction that is commensurate with the functional capacity of the central nervous system." For the brain determines the character of the response.

The injunction "know thyself" will have a deeper significance if we will observe the varied effects of stimuli upon different people, for you must know, exaggerations of personal reactions or idiosyncrasies, play no small rôle in the pathogenesis of insanity. The phlegmatic, deliberate ones, will receive all manner of stimuli into consciousness in a physiological manner and a reasonable reaction is the response. In another temperament, the reverse obtains and attention, judgment, orientation, even personality, all may be in abeyance for the time and an irrational reaction is the response. Fatigue neuroses, impaired wills, impulsive tendencies, loss of self confidence, morbid fears, impellent ideas, disorientation, etc., delusional states, all indicate the psychic function no longer dirigible, and imply a restricted consciousness. As there may be, and often is, delay or resistance to the reception, storing, and elaboration of stimuli, so there may be opposition to its emission, shown by stereotyped mannerism, negativism, etc.

This neural element, so responsive, so God-like, with its capacity to store up and reproduce impressions (memory pictures), pronounce judgment in connected thought, sustained by word pictures, which a limited faculty is wont to use, for it seeks to travel in lines of least resistance, and as you would expect, sustains a less connected thought, although may be able to repeat automatically the impressions once stamped upon it, and yet lack full consciousness, which is liable to be a medicolegal question to determine.

The hysteric, hypochondriac, even a physically sick man, sometimes—the first, with acute impressionability and vivid imagination, yet with superficial reasoning; the last two, introspective, probably pessimistic—have perverted organic sensations (*Somatic*) that obscure consciousness to a great degree, maybe they are entirely self centered and selfish, and yet not be suspected of any loss of this faculty but counted cranky, queer, odd, etc.

To impress this more forcibly I can liken this frequent defect to occasional mutations that come to the speech center, when from an injury adjacent to this center you have a temporary involvement of articulate speech from insult or reflex shock.

While no isolated or group of nerve cells constitute any single faculty and while each have a more normal function, when all are normal, we often find an apparent compensatory adjustment after defects, that may bridge over, superficially, and supply an injured function, which should be taken into account in determining perfect consciousness.

All forms of thought involve an association or connection between the various constituent psychic elements or units which represent faculties and the evidence of this synthesis becomes apparent in the complexity of connected thought, which is changed essentially during the course of an alienation.

Perfect afferent and efferent impulse is under the operation of the higher brain centers, and any anomalies of these mental processes, effect a change in consciousness; if reception to a stimuli is imperfect, volition is likewise imperfect, which will produce changes in personality itself and affect sensation, memory and its accompaniment, consciousness.

Concluding, the symptoms of delayed afferent impulses, are those of psychomotor retardation, as may be found in melancholia, organic dementia, etc. The efferent defects would be exemplified by negativisms and stereotyped mannerism, that are found in dementia praecox and some of the exhaustive nervous states.

DISCUSSION

DR. F. M. BARNES, JR., St. Louis: One point that I would like to bring out, touched upon by Dr. Johnson, and that is the idiosyncrasics, as he said, which we meet with in certain individuals who do develop psychoses. This is a point which quite recently has been particularly emphasized as an important feature of the biogenetic psychoses. Particularly has this been brought out that we have all come to recognize the "shut-in character" in those who develop this psychosis. Also, more recently this personal equation has been pointed out in the manic-depressive psychoses. We find that the individual who develops a manic attack is one who has been in previous life more or less of the good-natured, buoyant type of exalted, happy-go-lucky individual. The one who develops the depressive attack we find more frequently has been of the opposite makeup, the depressed, gloomy sort of fellow. We have those who show both these types, one day up in the clouds and the next down in the dumps, as the cyclothymic type of reaction. I think it is a very important point to bear in mind, as Dr. Johnson brought out, that in these so-called functional psychoses the individual is not different other than quantitatively from his ordinary psychic habit.

DR. JOHNSON (closing): I might say that what stimulated this paper as much as anything was my observation that when one is brought before a jury

to determine his mental status and answers questions with a fair degree of correctness you will hardly ever get a jury to say he is insane. Juries do not recognize the fact that the veil of unconsciousness is thrown over him and he is in many particulars unconscious of his acts or words. I often see cases with a reaction of the manic-depressive type, who will tell you of what he has done, and will say, "I know I have acted foolish, and if there is anything in the world that will hold me down, I want you to do it." Yet over night, perhaps, that veil will drop over his consciousness and the next morning he will be just as foolish in his conduct as if he had never had a realization of his acts. He cannot apply the vision before regained to his present condition, showing that a man who has a delusion cannot be convinced to the contrary, because of that fault of his consciousness. Then, another thing, a man may have this intellectual unconsciousness and respond to the call of his name or the prick of a pin, or might converse with you in matters of judgment or on matters of conduct, and should not be held accountable for what he does. This was the point I wished to bring out, that a man could automatically talk and automatically get about and seem to be well, when he was not responsible for his acts. Answering Dr. Woodson, the quacks have taken up the word "subconscious state" and the psychiatrists say it is play upon words. We do not use it. It might be for the time being the automatic self, and some times referred to as double personality; the man might, when he was himself, talk one way, and when the veil is partially over him, talk in another way. But as for the "subconscious state" I don't know anything about it.

DR. WOODSON: Well, I don't either. That is why I was asking about the so-called "subconscious" state.

THE TREATMENT OF NEURALGIA*

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Neuralgia is a symptom and not a disease; the underlying pathology is an inflammation of a peripheral nerve or nerves, the inflammation being of such slight intensity that the changes cannot be demonstrated microscopically. Neuralgia is in reality a symptom of a mild neuritis. Those cases of neuritis which we designate as such are of such intensity as to cause changes in the peripheral nerves of such a crude nature that they can be demonstrated microscopically. In neuralgias the pain is practically the only symptom, while in the neuritides disturbances of sensation, of motility and muscular atrophy are commonly present. Disturbances of sensation may be present in the neuralgias, but disturbances of motility and muscular atrophy do not occur as symptoms of this condition. Etiologically the neuralgias and the neuritides are intimately connected. A common causative incident may produce in one case a neuralgia and in another a neuritis. The three most important causative factors which produce the neu-

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ralgic and neuritic manifestations are as follows: (1) There are the various types or sub-varieties of mechanically acting processes such as crushing, pressure, tearing, cutting, etc., producing destruction of the peripheral nerve tissue as such. (2) There are changes produced in the nerve due to poisons of an absorbable sort introduced from without, such as lead, alcohol, arsenic, etc. (3) There are changes produced by the action of organisms or their products, by poisons of an endogenous nature, such as occur in diabetes, so-called auto-intoxication processes, and others of a similar nature. Therapeutically the neuralgias and neuritides present very similar problems. As neuralgia means pain, it is the relief of the pain with which we are concerned in its treatment. This may be limited to the sensory distribution of a peripheral nerve or nerves or referred to the surface distribution. In order that we may successfully relieve the neuralgic pain we must understand the producing cause and the underlying factors at work. We must extend our knowledge to an inclusion of two sets of facts, one having to do with the cause locally at work at the point of pain production, and the other having to do with the underlying causes if any which are the activating agencies back of the local area of disturbance. For purposes of therapeutic consideration various classifications of the neuralgias have been offered—regional, etiological, pathological, etc. The regional classification is the most convenient and shall be used at this time. There is no portion of the body which may not be afflicted with neuralgia, but by far the most important and numerous types of the infection are found in the distribution of the fifth cranial or trigeminal nerve.

Dental neuralgia is a very common form of neuralgia of the trigeminal; this may be due to caries with an exposed pulp, to inflammation of the periodontal membrane around a dead tooth, to an inflammation of the inferior dental nerve from direct pressure of the roots of the second and third molars or by injury of the nerve in extracting these two teeth. It may be due to an infected molar or to an erupting wisdom tooth. Dental neuralgia from any of these causes may be severe in type, may radiate over the entire distribution of the fifth nerve of the same side and to the back of the head and neck. It may be so severe as to be mistaken for a true tic douloureux or it may cause hysterical delirium. With this spreading neuralgia there are likely to be very definite areas of tenderness of the skin, varying with the tooth affected. These areas of tenderness do not occur in tic douloureux and may be found useful in diagnostic differentiation. The local treatment of dental neuralgia must be adapted to a removal

of the cause. A full dose of 10 to 15 grains of quinin sometimes will arrest at once the radiating neuralgia of dental origin, or better results may be obtained by repeated doses of 10 grains of butylchloral hydrate in combination with from 5 to 7 grains of phenazone. This may be given hourly for three doses and then every four hours if necessary.

Supra-Orbital Neuralgia.—Pain radiating from the eyebrow up over the forehead may be due to errors of refraction or glaucoma. Appropriate treatment will relieve. This type of neuralgia is not unusual in women during menstruation, gestation, or when greatly debilitated. Quinin combined with a coal-tar analgesic may give relief. Tonics should be administered, but strychnin cautiously, as it frequently intensifies trigeminal neuralgia.

Periodical supra-orbital neuralgia, or brow ache, may be of malarial origin or may follow an attack of influenza. Attacks may be of daily occurrence, beginning in the morning and lasting until late afternoon. There is a tenderness over the supra-orbital notch and the pain may be of such a severe character as to be unendurable. Drugs are of no benefit, excepting morphin hypodermically in $\frac{1}{4}$ -grain doses one-half hour before the expected attack. This treatment may effect a cure. Quick relief and certain cure may be effected by an injection of 4 or 5 drops of 90 per cent. alcohol in the supra-orbital nerve. This can be injected at the supra-orbital notch. The needle is inserted in the skin above the notch, $\frac{1}{4}$ inch below the eyebrow. When the nerve is entered a sharp pain is felt radiating over the forehead. After injection of the alcohol a strong burning feeling is experienced spreading up over the forehead as far back as the crown. This will be quickly followed by relief of the pain and the entire area of distribution of the nerve will be anesthetized.

Trigeminal Neuralgia or Tic Douloureux.—This is a severe and intractable form of neuralgia and affects both sexes equally, usually after the age of 30. Harris has observed its beginning as early as the seventeenth year and as late as the eighty-first. The pain rarely affects all three branches of the nerve; the first is the least frequently affected and the second and third branches may be affected singly or together on the same side. It rarely occurs bilaterally. The pathology of this form of neuralgia is an inflammation of one or more branches of the trigeminal nerve. This inflammation is usually secondary to a diseased state of the teeth or one or more of the various sinuses to which the nerve is distributed. A thorough investigation should always be made of the teeth and the sinuses and any diseased condition found should be corrected, but

it has been demonstrated that a correction of dental or sinus disease does not in the majority of cases stop the neuralgia. The reason for this is that the inflammation has extended into the nerve beyond the site of the local inflammation. A removal of the local cause of the irritation does not stop the inflammatory process within the nerves. The spasm of pain may be of daily occurrence continuing for years, or they may occur more or less periodically, lasting several weeks or months and then disappearing for a period of time. In the treatment of this condition drugs are of little value. Even morphin frequently fails to give relief and should always be used cautiously, as the danger is great that the morphin habit may be contracted.

Of the drugs which may be tried butylchloral hydrate, 15 to 20 minims, is the most successful in relieving the pain. Aconitine, 1/200 grain, given in pills three times per day, may be of service. The only sure way of arresting the pain is to destroy the branch of the nerve which supplies the painful area. If more than one branch of the fifth nerve is involved a destruction of the Gasserian ganglion should be undertaken by an injection of alcohol into the ganglion. This method of treatment was originated by Schlosser of Munich and has been perfected by Wilfred Harris and Purves Stewart of London and Picard of Paris.

The supra-orbital nerve is the only branch of the first division affected. It can be attacked at the supra-orbital notch. The infra-orbital branch may be injected at the infra-orbital foramen. This will relieve the pain if confined to the cheek and nose, but if the gums and teeth be affected, as is usually the case, the second division must be attacked at the foramen rotundum and the third division may be injected at the foramen ovale. Before a further consideration of the injection of the individual nerves, I shall give a general description of the technic applicable to all such operations. In the first place the patient should not be given a general anesthetic. Twenty minutes before the operation is to be begun a hypodermic injection of 1/200 of a grain of hyoscin and 1/4 grain morphin should be given. This will suffice to keep the patient quiet during the operation. Careful asepsis should be practiced in the preparation and handling of the instruments to be used. The instruments necessary are one needle and two syringes. One of the syringes should be filled with 5 per cent. sterile novocain solution and the other with 90 per cent. alcohol. The point of entrance should be marked and frozen by means of the application of ethyl chlorid. The needle is quickly pushed in to the approximate depth in the direction in which the nerve is expected to be found. A few drops of novocain solution is then injected

and a search for the nerve is begun. Do not expect a sensation over the area of distribution of the nerve when you strike it. You may get a burning, stinging sensation over this area, but frequently you do not. When the patient complains of any pain whatsoever inject a few drops of novocain solution and then a few drops of alcohol. Wait three to five minutes and then test the sensation of the skin supplied by the branch which you are attacking. This is the only test worth considering. If you find a beginning anesthesia and analgesia of the skin, you know that you are in the nerve and can then inject the remainder of your alcohol with the assurance that you are going to get the result which you are seeking. He who undertakes to do nerve injection work must be prepared to work patiently and diligently, seeking until he finds the nerve. He knows that the nerve is there and that if he seeks for it in the right locality he will find it; and as stated above, there is but one symptom which tells you that the injected material has gone to the right place, that is the anesthesia and analgesia of the surface to which the nerve is distributed. I neglected to state that the needle used for this work should have a short point and every precaution should be taken not to get blood into it, and if a drop of blood does enter the needle it must be removed and cleansed, as it will be impossible to inject your alcohol through the needle until the blood is removed. If a hemorrhage occurs at any stage of the operation, the needle should be removed immediately and pressure made over the point of puncture. After the hemorrhage ceases if the operation has not been completed, it may be resumed. The second division of the fifth nerve is injected at the foramen rotundum through the cheek just in front of the condyle of the lower jaw, using a needle 8 to 9 cm. long and 1.2 mm. in diameter, with a short point. The needle is pushed inwards and upwards at an angle of about 40 degrees until the external pterygoid plate is reached, when the point is slowly worked forward until it slips in front of the edge of this bone and is pushed inward for another 5 or 6 mm. when the superior maxillary nerve should be struck at a depth from the surface of 5 to 5.5 cm.. If the injection is successfully made there will be an anesthesia of the skin of the cheek, upper lip, and side of nose, of the upper gum and palate as far back as the middle of the soft palate.

The third division of the fifth nerve should be injected at the exit through the foramen ovale. A needle 6.5 cm. in length and 0.8 mm. in diameter should be used. This is pushed through the skin at a point 3.2 cm. in front of the external auditory meatus between the lower border of the zygoma and zygomatic notch of

the lower jaw. The needle should be pushed inward very slightly upward and backward to a depth of 4.5 cm. The depth at which the nerve will be struck is, of course, slightly variable, depending upon the shape and breadth of the skull and character of development of the soft parts. The symptoms indicating a successful injection of this division of the nerve are anesthesia and analgesia over the corresponding side of the lower lip and chin, lower gum, teeth and tongue and over the area of distribution of the auriculotemporal branch. There is also slight motor palsy of the temporal masseter and pterygoid and some slight stiffness on opening the jaw, but this is not severe and passes away in a few days. The relief of the pain is not always instant, but it may exist for a few days after the injection is made. In searching for this branch of the nerve, if the needle is pushed in too far, it may penetrate the pharynx and if the solution is then injected it will be felt in the back of the throat or the needle may penetrate the eustachian tube. If it is desired that the Gasserian ganglion be injected after the third division is penetrated and injected, the needle may be pushed three-eighths of an inch farther through the foramen ovale into the ganglion. The amount of alcohol injected into the ganglion must be carefully regulated, 1 or 2 c.c. of alcohol may be used in the second and third divisions of the nerve. The alcohol should be very slowly injected into the ganglion, and as soon as a very slight anesthesia appears over the distribution of the supra-orbital the injection should be stopped. The cells of the first division are situated at the inner side of the ganglion and if they are completely destroyed ulcer of the cornea and perhaps loss of the eye may result.

A successful injection of the various divisions of the fifth nerve gives relief of neuralgia for a period varying from ten months to two years, at which time there may be a recurrence and another injection must be made. An injection of the Gasserian ganglion destroys the cells and gives permanent relief. Surgical removal of the Gasserian ganglion is a severe and dangerous operation. A proper injection of the ganglion is entirely void of danger and gives as good or better results than removal. As an illustration of what can be done by injection, I wish to cite the following case. Sunday, January 11, I injected the third division of a patient, but as she also showed involvement of the second division, on Tuesday, January 13, I injected the Gasserian ganglion. This patient was a woman 78 years of age and had had a very severe type of tic douloureux for twelve years. The spasms were of almost daily occurrence and of such a severe type that during a considerable part of the time she could only take liquid nourishment and that through a

glass tube or by means of a spoon on the opposite side of the mouth, as bringing anything in contact with the affected side caused very severe paroxysms of pain. During the second injection she went to sleep before the operation was finished and since the injection of the ganglion there is complete anesthesia, analgesia and loss of pain over the entire area of distribution of the second and third divisions of the same side with a very slight anesthesia over the area of distribution of the supra-orbital. She has continued entirely free from all pain over these areas, has been able to eat with freedom, and discontinue the use of codein, which she had used continuously for a long period. She was very weak at the time of the operation and could not have survived the Gasserian ganglion removal.

Occipital Neuralgia, involving the area of distribution of the great occipital nerve, may be very intractable, refusing to yield to the application of internal or external analgesics.

Injection of the nerve gives immediate relief. The scalp should be punctured on a horizontal level with the external auditory meatus and three-quarters of an inch from the median line. A radiating pain darting up to the crown indicates that the needle has entered the nerve. A few drops of novocain solution are injected, followed by 5 to 10 drops of 90 per cent. alcohol.

Brachial and Scapular Neuralgia.—Brachial neuritis is a very common, troublesome and painful complaint. It may last many weeks or months and pain may be the only symptom. The pain radiates from the shoulder down the arm to the wrist and fingers but does not follow the course of any particular nerve root. Changing areas of tenderness may be present and the pain vary in intensity from day to day, occasionally disappearing entirely for a few days and weeks and then returning with renewed intensity. The underlying pathological condition is usually a rheumatic fibrositis. During treatment the patient should rest in bed with the arm wrapped in cotton wool supported on a pillow, cataphoresis may be used with the kathode over the clavicle, soaked with salicylate of soda solution, the anode wrapped around wrist, soaked with lithium carbonate solution. A current of from 8 to 15 amperes, constant in character may be used twenty minutes. Radiant heat applied by means of an incandescent lamp backed by a strong reflector may be of much benefit. Methyl salicylate or menthol should be used locally. Phenacetin, pyramidon and aspirin in full doses internally may relieve. Some cases can be cured quickly by means of alcoholic injections.

A careful search is made and painful spots are found from which pains radiate down the

arm, such spots usually being located in the scapular region. An injection of the novocain solution, followed by 5 to 10 minims of alcohol, is made in the region of the tender areas. The pain may be intensified for the first twenty-four hours, but after this the radiating pains cease and recovery quickly ensues.

Toxic or Diathetic Neuralgia Affecting the Head or Limbs.—These forms may be met in gout, diabetes, anemia, malaria, syphilis, Bright's disease, chronic poisoning by lead or alcohol. A careful examination and discovery of the cause will indicate the treatment.

Visceral Neuralgia.—Visceral neuralgia may simulate pleuritic pain, angina, gastric or duodenal ulcer, gall-stones, renal calculus, or appendicitis. Neuralgia in the region of the solar plexus may be responsible for vague abdominal pains and neurasthenic symptoms. Rest in bed, hot applications, radiant heat, abdominal belt with one of the coal-tar analgesics internally will usually give relief.

Post-Herpetic Neuralgia.—This form of neuralgia may occur with great severity in elderly people over 60. The intensity of the pain has no relation to the extent or degree of the scarring of the skin. This is a most difficult pain to relieve and is usually resistant to internal medication and local applications. Injection of alcohol down to the intervertebral foramen may arrest the pain. Failing to give relief by this method a laminectomy and section of the posterior nerve root is the only treatment which offers hopes of success.

Painful Heel.—Before any form of treatment is instituted for the relief of this not uncommon type of neuralgia a careful search should be made for a bony spike growing from the under surface of the calcaneum, foreign bodies, inflamed bursae, under the tendo Achillis, etc. In the absence of any of these causes an injection of eucain followed by 1 c.c. of salt solution at the point of tenderness will frequently give immediate and permanent relief.

Psychalgic Neuralgia.—Pains may be mental in origin. They are also called habit or imperative pains and may resist treatment for many years. They are the result of obsessions and should be treated accordingly, but before making such a diagnosis a very careful investigation of all phases of the case should be made. Mental pains are never limited to the area of distribution of particular nerve trunks or roots.

Functional Neuralgia, like functional disease, should never be diagnosed until a possibility of the condition being organic has been most thoroughly investigated.

Sciatica.—Acute inflammation of the sciatic nerve may occur without any other symptom being present excepting the pain. These cases

we consider a type of sciatic neuralgia. The cause of the condition is usually a fibrositis of either a rheumatic origin or the result of a fall or some muscular strain. Antirheumatic remedies may give the desired relief. During the acute stage the patient should rest in bed, cataphoresis with salicylate of soda and lithium carbonate should be used twice daily for twenty minutes. A flat pad 7 by 4 inches attached to the negative pole soaked in saturated solution of salicylate of soda is applied lengthwise along the buttocks over the nerve. The larger pad is attached to the positive pole soaked in lithium carbonate solution and applied across the surface of the thigh just above the knee. A constant current of from 20 to 30 amperes should be used. Avoid sudden breaks of current and burning of skin. After ten days or a fortnight of this treatment, massage, passive movement, especially flexion of the hips, keeping the knee straight, may be commended. This will prevent adhesions between the nerve and surrounding tissues.

Other forms of treatment besides rest in bed and electricity are blisters along the thigh over the course of the nerve, frequently repeated, radiant heat, arc-lamp rays and liniment, such as methyl salicylate and soap liniment. Tincture of iodine may be used daily, painted over the course of the nerve, and the iodine may be advantageously combined with cataphoresis treatment, painted over the buttocks beneath the kathode. If sleep be interrupted by pain, 10 grains of aspirin with 5 grains of pyramidine may be given at night or an injection of morphine may be made. In the obstinate cases quick relief may be obtained and a rapid cure effected by the injection of the sciatic nerve with normal saline solution. I prefer to make the injection at the great sciatic notch. The needle is inserted $3\frac{1}{2}$ to 4 inches horizontally outward, from the top of the intergluteal fold. The nerve is found at the depth of $2\frac{1}{2}$ to 4 inches. When it is penetrated, a sharp stinging pain is felt radiating down the leg and into the foot. One c.c. of 2 per cent. novocain solution is injected into the nerve. Without removing the needle, a larger syringe is attached and 100 c.c. of warm sterile saline solution is injected. The effect is to inflate the nerve locally, break down adhesions and separate out the fibers. Immediately following the injection there is experienced a warm swollen sensation in the foot and leg, usually with the immediate disappearance of the sciatic pain. The patient should remain in bed for twelve hours after the injection. Alcohol and carbolic acid have been recommended for the purpose of injecting the sciatic. But they will most certainly cause paralysis which may extend over a long period of time. In some cases after using the saline the pain

returns after a few days or weeks, when another injection should be made; but if the sciatica is associated with painful spots over the ileum, an injection of alcohol down to the bone, as is recommended in the treatment of shoulder neuralgia, will oftentimes prove very beneficial. Patients who have just recovered from an attack of sciatica should be careful not to lift heavy weights, or to exert any severe strain upon the back muscles, as such exertion may cause a relapse. In old-standing, chronic cases of sciatic neuritis which have persisted for a period of six months to a year or longer the neuritis may damage the nerve fibers to such an extent that disturbances of sensation may be present with paralysis and muscular wasting, three or four large injections of saline solution may effect a cure. If a cure cannot be obtained by this treatment, cutting down on the nerve and splitting the sheath longitudinally for several inches may give relief.

Rialto Building.

SOME FACTORS IN SURGERY OF THE STOMACH AND DUODENUM*

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The increasing interest and activity in the diagnosis of diseases of the stomach, and the apparent loss of interest in the case after it had been found to be surgical are the excuses I offer for calling attention to the immediate mortality and remote results of operations on the stomach and duodenum.

The vicious circle, which was a frequent cause of death in the early days of gastro-enterostomy, has been practically eliminated. The vicious circle is mechanical in origin and does not occur if the stomach drains. Stomach drainage does not depend so much on the size or position of the gastro-enterostomy opening as it does on the presence or absence of flexions or angulation of the small gut. In all gastro-enterostomies care should be exercised that a duodenum which is sharply bent as it leaves the left side of the mesentery is not again angulated in the reverse direction by doing a short-loop posterior operation. A duodenum that terminates on the right side of the mesentery is not suitable for the short-loop posterior operation. Mulford overlooked this type of duodenum in one case and did the classical posterior operation. Angulation and obstruction followed and the patient died. In all cases of angulated duodenum, enough loop should be left to guard

against acute flexion. This is especially important when the stomach is dilated and has sufficient muscular tonus so as to contract after the operation. A short or no-loop operation may be satisfactory when the stomach is dilated, but after the stomach contracts the duodenum may be angulated and a late vicious circle result.

It is suggested that in all gastro-enterostomies the intestines should be sutured to the stomach for a little distance on each side of the opening and that care should be taken not to use too much of the intestinal wall in the bite of the sutures. If too much tissue is included in the suture line these become so rigid and the intestinal lumen so narrow that the suture lines form a spur that sometimes blocks the opening. Mayo's suggestion of suturing the opening in the transverse mesocolon should not be neglected. I have always sutured the mesocolon to the stomach instead of the intestine, because we fear that traction by the colon downward or by the stomach upward might bring strain on the suture line if the mesocolon were attached to the intestine. Such traction on the suture line is impossible when the mesocolon is sutured to the stomach.

Hemorrhage at the site of anastomosis is in some instances the cause of death. It is due either to a blood-vessel that is not occluded by the sutures or to the very rapid digestion of catgut used to unite the mucosa. If the operation is done without the use of clamps or if the clamps are released before the mucosa suturing has been completed a blind hemorrhage will not occur. I believe that catgut should not be used in the mucosa in hyperacid cases.

Many a man who does a faultless gastro-enterostomy from the mechanical standpoint is now and then losing a patient from one or more of the following causes: Shock, post-operative dilatation of the stomach, urinary suppression, embolism, pneumonia, or acidosis from starvation. The first step for the prevention of death from these causes is a knowledge of the pathology of starvation and an appreciation of the fact that some of these patients are suffering from starvation in an advanced stage and are saturated with its katabolic poisons. Many of them need only the effects of an anesthetic or the trauma of an operation to precipitate a condition of toxemia as serious in its consequences as uremia or diabetic coma. It was shown long ago by Luciana and more recently by Prowsintz, Landergren and Voit, that after a starved patient has used up his available carbohydrate and his labile proteids he must next rely on using his stable proteids in order to maintain his existence, and when he uses up any appreciable amount of his stable proteids he is in a precarious condition indeed. Knous, Van Noorden and Neudethen have

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reported cases of chronic starvation that suddenly developed vomiting, collapse and death. The factor of starvation should not be ignored in these patients. If possible they should be supplied with some nourishment and the acidosis neutralized before operation, or if this is impossible water should be supplied to them previous to operation, either by the rectum, subcutaneously or intravenously as the case demands.

A factor in the mortality of stomach operations that is quite as important as toxemia from starvation is operative trauma. Traction on the stomach, mesentery or intestine is fatal to some of these patients. It should be avoided by all means. In all cases where, on account of obesity, small stomach or short mesentery, the operative part cannot be brought easily to the surface, clamps should be dispensed with and the operation done if necessary down in a well. This may be tedious and tiring but I am convinced that it pays to do it. Vasomotor paralysis, paralytic and perverted secretions, are in most instances due to operative traction. They are best treated by prevention, which means, "don't pull on the viscera."

A mortality factor in stomach work that is almost as important as operative trauma is anesthesia. Our choice is local anesthesia, using 0.5 per cent. novocain solution. Crile's method is preferable to general anesthesia, but in the bad cases it has been our practice for some years to use only the local infiltration method.

Dismissing the immediate mortality of stomach surgery, I desire to call attention to the fact that not all patients recovering from the operation are well. A certain number of them continue to complain of abdominal symptoms. In some of these there has been present an extra-gastric condition along with the stomach lesion which has been overlooked at operation and continues to produce distressing symptoms. It is not sufficient in any case of gastric or duodenal ulcer to consider the operation complete until the remaining organs of the abdomen have been examined. It is well known that chronic appendicitis may be responsible for an ulcer symptom-complex—even to the point of vomiting of blood as has been recorded by Hertz. It is also possible that a chronic appendicitis has preceded the ulcer and could be held responsible for its causation. That there exists more than an accidental relationship between chronic appendicitis and pyloric ulcer many will admit. It is probable that chronic appendicitis and perhaps other intra-abdominal conditions may produce pylorospasms and secretory derangements and that the pylorospasms may, with the aid of hyperacidity result in ulceration at the pylorus. It is generally admitted that vagus hypertonia may cause pylorospasm. Pavlov has shown that impressions arising in the duodenum do, by

vagus hypertonia, cause pylorospasm. Lichtenbelt and Losselle state that vagus hypertonia may occur as a result of many abdominal diseases, especially appendicitis and cholecystitis. Eppinger and Hess have observed that ulcer is common in vagus hypertonia. It is possible that in some cases a chronic appendicitis may by way of the vagus nerve cause pylorospasm and that continuous pylorospasm interferes with stomach function and nutrition and at the same time mechanically produces anemia of the pyloric mucosa. On account of the local anemia the mucosa is digested and ulceration is the result. Lichtenbelt and Losselle believe that this is the pathogenesis of not a few pyloric ulcers. This theory is further supported by the fact that vagus hypertonia usually means, according to Foltz and Redinger, hypersecretion and as a rule is associated with hyperacidity. According to Schryner nutritional disturbances resulting from pylorospasm may so change the chemical constitution of the body as to result in hyperacidity of the stomach. All of these changes which are supposed to result from vagus hypertonia are believed by Carnot to have their origin from conditions stimulating sensory nerves in the abdomen as well as the vagus. So it would seem that chronic appendicitis or other conditions stimulating either the vagus or abdominal sensory nerves might result in pylorospasm, hyperacidity, anemia of the pyloric mucosa, digestion of the epithelium and ulceration.

It sometimes happens that a patient who has had definite stomach lesions dealt with by means of thorough and competent surgery, and who has had his appendix, biliary apparatus, colon and remaining abdominal viscera restored to as normal a condition as possible, will still complain of so-called stomach symptoms.

I believe that these cases are not all neuros-thenics and by carefully studying them from the operative and postoperative standpoints, their numbers may be diminished. Admitting the well-known theoretical objections to gastro-enterostomy pointed out by Hemsheimer, Jensen, Auschutz, Mikulicz and others, I still believe that practically gastro-enterostomy can be made a harmless operation in nearly all cases.

In my experience the patients who have had chronic trouble after gastro-enterostomy have been those suffering from marked hyperacidity. Fullness and pain after eating, diarrhea and even ulceration of the jejunum have been complained of only in association with hyperacidity. Hertz and Jonas have called especial attention to these cases. Hertz recommends a smaller gastro-enterostomy opening to prevent too rapid emptying of the stomach, and Jonas suggests a belt for atonic cases with a recumbent position maintained for one-half hour after meals. I believe that both are right.

My suggestion is that in hyperacid cases with a small stomach or any stomach with a good musculature the gastro-enterostomy opening should be small. In atonic large stomachs with little or no acid the opening should be larger than usual, to prevent undue retention. All hyperacid cases should be given oil after operation until the hyperacidity diminishes and atropine should be given also. If the postoperative symptoms are thought to be due to retention a belt is applied. If the stomach empties too rapidly, make them lie down one-half hour after each meal. These suggestions regarding postoperative hyperacidity and the rapidity with which the stomach empties itself may seem trivial. At one time I thought them of little or no consequence; at this time, however, I believe they are important and if hyperacidity and gastric evacuation are given serious consideration there will be fewer patients suffering from pain, fulness, and gas, diarrhea, and even jejunal ulcer after stomach operations. In other words there will be fewer patients suffering from the so-called bad effects of gastro-enterostomy.

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THE SQUINTING CHILD *

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It appears like "carrying coals to Newcastle" to bring a subject such as squint before an audience of pediatricists. It would seem much more apropos to discuss the subject with general practitioners. Next to ophthalmologists no one is probably more keenly alive to the ocular needs of the child than the pediatricist. A consideration of the subject as indicated by the title of this paper, if discussed in all its phases, would lead us far afield even unto the realms of speculation and romance. It is not my purpose to recite case histories, quote many authors, or delve very deep into the subject concerning methods of examination or operation. If all children deviating from the normal were seen early by children specialists, the number of squinters would be materially lessened.

The beginning of a squint is usually attributed by the parents to a fright, accident, spasms or infectious disease, generally measles and whooping-cough. It is surprising how many will date the strabismus from an attack of measles. We hear less at present than formerly of the effect of the imitation of playmates, bad position in the crib, relatively badly situated light, sucking of the thumb, etc. These factors

were at one time popularly considered as having an etiological bearing. Of course, they have nothing to do with it. An infectious disease may, however, upset an ocular muscle balance which was previously maintained as it were, "on a hair trigger," and determine the onset of a squint. However, the spasm, infectious disease or what not, simply was the exciting factor in upsetting the muscular balance; the basic conditions had to be present and they were either a muscular imbalance or a marked error of refraction. The ocular status in early life is as Worth expresses it thus: "The vision of each eye separately, the preponderance of the macular region and the conjugation of the two eyes in vertical movements, the human infant has fairly well developed at birth." Later, conjugation in lateral movements occurs and still later, but within the first year, the development of binocular vision.

In the beginning a squint is usually intermittent. As the effort at binocular single vision is more and more burdened by its handicap of muscular imbalance, or refractive error, aggravated by the increase of near work, the periods of squinting increase and the periods of binocular single vision decrease, so that eventually the squint is continuous. If a young individual with an unstable fusion sense has to choose between seeing dimly and binocularly or clearly and unocularly, especially if binocular single vision is maintained at the expenditure of an immense amount of nervous energy, he will eventually choose the path of easiest accomplishment, see clearly with one eye and allow the other to deviate. Such a *modus operandi* is at the bottom of most cases of convergent squint, the handicap being a hypermetropia, either simple astigmatic or compound. At first the vision of the deviating eye may be, and is usually, good, therefore double vision exists, and while at first annoying soon ceases to be so as the child learns to suppress or rather ignore the false image. From this time on vision rapidly deteriorates in the squinting eye. At the onset of a squint it must not be presumed that because an eye turns in it is necessarily an amblyopic one. The age of onset varies; quite a number, a minority, however, appear before the end of the first year. The majority though are seen at about the third or fourth year. Backwardness of development and lack of perfection of the fusion faculty manifests itself even before this period, whereas at three or four years the great increase in near work is a factor in determining the onset of the squint. The child without any or a poorly developed fusion faculty has little or no chance of seeing binocularly, consequently the presence of a refractive error is quite prone to determine the early appearance of a squint. Inasmuch as an

* Read before the St. Louis Pediatric Society, April 10, 1914.

excess of convergence with or without deficiency of divergence, or an excess of divergence with or without an insufficiency of convergence, may produce a deviation, it is dependent on which is present or predominates whether we have to do with a convergent or divergent squint. Convergent squint is usually associated with hypermetropia and an excess of convergence and divergent squint with myopia and an insufficiency of convergence or an actual excess of divergence. Convergent strabismus is by far the commonest squint condition we encounter. Squint may be periodic, intermittent, alternating or continuous. Two theories are extant explanatory of the etiology of squint, viz., those of Donders and Worth. Donders, recognizing the intimate relation between accommodation and convergence formulated the theory of excessive convergence being the result of excessive accommodation. It is a logical assumption and explains satisfactorily the larger number of cases of squint. Worth, noting the great number of hypermetropes, who are not strabismic, and of an appreciable number who have squint with but small amounts of hyperopia, and even some with no refractive error, came to the conclusion that the lack of or diminished ability to fuse the images of the two eyes, was the cause of squint, especially in those cases where the application of Donders' theory was not practicable. He does not deny the cogent arguments of Donders, but asserts rather that the accommodation theory does not apply to all cases. The occurrence of squint in several members of a family is frequently noted. In a series of cases, Worth found evidence of heredity in 51.78 per cent.

In the cases of alternating squint with low hyperopia and nearly equal vision in each eye, we are almost positively assured of failure in treatment with glasses. These are generally Simon pure cases of deficient or absent fusion faculty. Many of the patients helped by glasses have their eyes straightened as soon as they are under the effects of atropia. These truly exemplify the Donders' theory. Modern ophthalmologists subscribe to both doctrines and endeavor to ascertain which is applicable and to institute the proper curative measures based thereon. The fusion faculty begins to be developed toward the end of the first year and is complete at six years. Attempts to develop it after this time are usually futile. The child must be taken early if fusion training is to be of avail. It is best instituted at three years of age. Perseverance and patience are necessary; the seance should not be too long, not over fifteen minutes as the interest of the child soon wanes. The instrument used is a Worth amblyoscope. The slides should be entertaining.

Seances should be at intervals of five days or a week. Once a patient with good sight is made to have binocular single vision and fusion, almost no power short of paralysis of an ocular muscle will make him give it up, for that would mean diplopia, and double vision in an individual is as abhorrent as a vacuum in Nature.

There still exist practitioners who calmly ease their consciences and lull the importunities of their patients by positively asserting that a child will outgrow his squint. The same gentlemen also state that the child will outgrow his enlarged tonsils and adenoids. Better said that he will outlive them, but at what cost? On the one hand, a virtually blind eye; on the other, a poorly developed body, enlarged glands and a stunted mentality. While it is true that occasionally a child does experience a spontaneous straightening of the convergent axes, the occurrence is so infrequent that it is negligible and surely does not establish a rule for the guidance of the great majority of the cases. Where a spontaneous straightening does occur, it will be found on investigation that one eye, the previously deviating one, is highly amblyopic, to such an extent that it is often useless for visual purposes. To allow an eye to become amblyopic where proper treatment would preserve useful vision is little short of criminal. It has been a matter of common observation that an individual with such an amblyopic eye, if he suffers an ocular accident, usually has the good eye injured. This is hardly chance. While engaged in chipping, drilling, hammering, chopping wood or any near work, the good eye is turned toward the object worked upon, its axis is in direct line and consequently it is not surprising that the good eye and not the deviating one is so often injured.

Divergent squint frequently develops after childhood in which cases it is often associated with a progressive myopia, or the occurrence of something which lowers the visual acuity of one eye, such as the formation of a corneal scar following an injury or ulcer, the presence of an opaque spot in the lens or the interposition of anything in the refractive media capable of diminishing good sight. Many blind eyes deviate outward. We usually associate a divergent squint with myopia where other factors are not specifically mentioned. This has a close relation with the subject in hand, as myopia has its beginning and development in childhood. No child presumably is born myopic but hyperopic. In many cases there is a hereditary basis or tendency to the development of myopia; the child inherits not myopia, but weak ocular tunics, which, with the stress of near work and accommodation, gradually yield with a consecutive axial myopia. A vicious circle is established, the greater the myopia, the less the range

of vision, greater application to near work, increase in myopia and diminution of accommodation. A myope of three diopters does not accommodate at all at ordinary reading distance of thirteen inches, hence as the near work is brought closer and closer, the convergence increases until such a point is reached that it is no longer possible, one eye fixes and the other assumes the position of rest and deviates outward.

It may not be amiss to lightly touch upon the economic and sociologic aspect of squint. The squinting child with lowered vision is often considered stupid at school. He is not necessarily stupid, he simply can not see. Consider the handicap of a strabismic boy or girl in the great battle of making a living. Brains and ability are the prime requisites, and count for more, in seeking employment, with boys than with girls (and this is not to be construed as derogatory to the intellectuality or ability of girls). With the latter, a prepossessing appearance counts for much in the positions worth while. Again, every girl expects or should expect to have the opportunity of marrying. Much as one might strenuously deny it, a man would select, other things being equal, a straight-eyed girl. Consequently, the squinter suffers a great disadvantage in comparison with her straight-eyed sister; she cannot pick and choose, and if she does marry, has often to be content with a mate her intellectual and social inferior. This is manifestly unfair, especially when a remedy is at hand and the deformity could have been cured. To allow children to grow up strabismic is unjust to the children. Every child has a right to a healthy normal body and has a moral right to hold its parents accountable for the presence of a physical defect, which was susceptible of amelioration or cure, and for which no attempt at eradication was made. It is impossible to educate the laity up to the proper procedures when so many of the medical profession maintain an indifferent attitude. A prejudice exists against operative measures dating no doubt from the era of indiscriminate muscle cutting, when more harm than good was accomplished. Many cases are not and cannot be cured with glasses, consequently great faith does not always exist in this method. With many ophthalmologists strabismus cases are not much sought after because of the chances of failure, the time involved, the lack of cooperation of the parents and the all-around thanklessness of the job, for these cases take up much time, exhaust the patience of oculist, parent and child, the non-operative results are not immediate and therefore not brilliant, so that the parent is prone to stop all effort at correction.

Once the importance of squint and its far-reaching effects are thoroughly impressed upon

the profession in general, and the laity in particular, a great step will have been made in bringing about its amelioration. What is to be done for the squinter, and when? Opinion is divided. Some wait until four years of age before prescribing glasses, stating that before that age glasses will be considered as a toy. This is true in some instances, but is no reason why a trial should not be made. Mr. Worth finds no difficulty in having children of a year and a year and a half wear glasses continuously. No child is too young that we need refrain from at least ascertaining the cause of the trouble and keeping the patient under periodic observation. As most cases of squint present themselves at three or four years of age, we can proceed immediately to correct the condition. The first step is a careful refraction test under atropia. To attempt refraction without first thoroughly paralyzing the accommodation is a waste of time and energy. With these little patients retinoscopy is a boon in estimating their refraction, and is the only accurate way of arriving at any definite conclusion. With convergent squint, there is usually found hyperopia of varying degree, sometimes simple, but usually compound. The deviating eye has lowered vision and generally the higher amount of hyperopia or astigmatism. In those cases allowed to remain for a long time with one eye constantly deviating, vision steadily deteriorates and a condition of amblyopia exanopsia ensues. Here correction with glasses is not sufficient. The patient will continue to use his good eye for fixation and allow the other eye to deviate. Something must be done to give the poor eye the advantage. This is accomplished by various means, viz., wearing an opaque glass over the good eye, a very inefficient measure as the child will look over the glasses; the use of atropia in the good eye, a procedure very excellent provided the vision of the deviating eye is not too low. This compels the child to use the bad eye for near, yet he will still use the good eye for distance. In the higher degrees of amblyopia this is not sufficient. Another method is putting a very strong plus glass before the good eye; this makes the good eye artificially myopic. The same objections apply here as against the opaque lens. Finally, the good eye may be totally excluded by a pad, bandage or collodion dressing. This must be done in the worst cases and persisted in sometimes for months, if lasting results are to be obtained. I have seen the vision brought up from 1/20 of normal to 2/3 of normal, by this measure. Cooperation of parents is indispensable. At times, as vision improves in the bad eye, the atropinized or bandaged eye will commence to deviate. In such cases the atropin or bandage is discontinued, the patient seen frequently and some

careful maneuvering in treatment between the two eyes indulged in. After the refractive error is corrected, the fusion sense should be tested. If deficient, fusion training is commenced and carried out as above mentioned. Usually five or six lessons are sufficient. Glasses are to be worn constantly and a pair kept in reserve for instant use in case of breakage. If the case is seen too late to develop fusion sense, or glasses after a long and thorough trial fail to correct the squint, operation must be considered. The alternating squints with equally good vision in each eye are never helped with glasses. The time to operate is a bone of contention. Some urge early operation, some late and ultra conservatives none at all. With proper glasses and good sight in one eye the child does well at school and is not considered stupid. From this point of view we can defer operation. If he has binocular single vision, he will not squint, and if he squints he has not binocular single vision, so all that operation accomplishes is a cosmetic result. This is sufficient, however, to justify all the time, trouble and skill expended on its consummation. A tenotomy usually corrects a deviation of 15 to 20 degrees; higher deviations must therefore have an advancement of the antagonist, combined with the tenotomy. The main objection here, in young children, is the use of a general anesthetic which abrogates the cooperation of the patient. The tenotomy may be done under ether, and when the child is older an advancement under local anesthesia. I am not convinced that this is a wise procedure. An advancement under ether is liable to result in an over-correction with a consequent divergent squint or "wall eye," a worse defect than before, a constant detrimental advertisement and a fruitful source of damage suits. In many cases it is wise to wait until about puberty, when the natural sprouting of feathers and development of pride in personal appearance act as valuable adjuvants in the performance of the operation. With a number of the operations, the patient can sit up, direct the gaze across the room where the observing surgeon stands, giving him an accurate idea of the effect produced. If over-corrected, the sutures can be loosened. If under-corrected, they can be tightened. This is particularly true of the Hulen operation. The operation is done under cocain adrenalin anesthesia with a preliminary injection of morphia, $\frac{1}{6}$ grain a half hour before commencing work. This latter should not be omitted, for by quieting the patient mentally and physically, work is facilitated and more perfect results obtained. A deviation of 25 degrees or over calls generally for a simultaneously performed tenotomy and advancement. The proper glasses are worn after operation.

The preceding remarks have been made with reference to convergent squint. A divergent squint likewise demands operation, the choice being usually an advancement of the internus with or without a tenotomy of the externus.

In conclusion, the following points are emphasized:

1. The amblyopic child is not necessarily a stupid one.
2. Attention should be given the squinter at an early age.
3. Corrective treatment must be instituted as soon as possible.
4. As full a correction in glasses as possible under atropia should be given.
5. Fusion ability determined and trained if deficient.
6. Occlusion or handicapping the good eye in various ways should be done and faithfully carried out where the amblyopia is extreme.
- Development of vision in an amblyopic eye must always be attempted, as a patient is often called on in later life to depend upon that eye.
7. Glasses should be given a thorough trial, operation done only after all other methods have been exhausted, as operation produces but a cosmetic result.
8. Preference is given to advancements as they are more exact and are under better control.
9. Spontaneous straightening rarely occurs, and when it does, there remains usually a highly amblyopic eye.

626 Metropolitan Building.

A NOTE ON THE DIFFERENTIAL DIAGNOSIS OF TYMPANITES AND PNEUMOPERITONITIS

W. W. DUKE, M.D.
KANSAS CITY, MO.

The differential diagnosis of tympanites and pneumo-peritonitis is as a rule easy but occasionally is beset with difficulties. Pneumo-peritonitis may simulate tympanites both in symptoms and physical signs. A differential diagnosis is naturally of the utmost importance and it is for this reason that I wish to describe a simple method of differentiation which, although known, has received little emphasis in the literature.

Pneumo-peritonitis is always a severe illness. It often follows immediately on a perforation of the stomach or intestine into the free peritoneal cavity. Gas, intestinal contents, and putrefactive bacilli, thrown out suddenly into

the peritoneum, cause, as a rule, sudden severe pain, vomiting, collapse, abdominal distention, etc. The air, if not confined by peritoneal adhesions, rises to the highest point in the cavity, the liver and spleen drop away from the abdominal wall and instead of flatness to percussion over the liver in the mamillary line there appears tympany. The finding of tympany in this location is often considered a characteristic sign of perforative peritonitis, but it is also generally admitted that it occurs frequently in tympanites. More reliable information can be obtained by percussion in the right mid-axillary line at about the level of the eighth rib. Here liver flatness can be found in either tympanites or pneumo-peritonitis so long as the patient lies on his back. If, however, the patient turns on the left side, an important differential point can be obtained. In case of pneumo-peritonitis, the liver drops away from the chest wall unless bound to it by adhesions and the flat percussion note changes to one of tympany. In tympanites, the flat note persists. A change from a flat to a tympanitic note in tympanites could only occur as a result of a loop of intestine slipping in between the liver and chest wall. This would seem theoretically out of the question. I have examined a number of cases of tympanites with this point in mind and in every instance liver flatness in the axillary line has not been modified by change of position. The following case observed in the Massachusetts General Hospital on the service of Dr. H. F. Vickery some years ago illustrates well the value of this physical sign. It will be noted that except for this sign, both symptoms and physical findings were those of tympanites rather than those of peritonitis.

The patient when first seen appeared very ill but not in a state of complete collapse. The expression was tranquil. The temperature was almost normal. The pulse was rapid and weak. The abdomen was distended. There was complete absence of liver flatness in front. Liver flatness in the right axillary line disappeared when the patient was turned on his left side. There was very little abdominal pain; almost no tenderness and no muscle spasm. This, and the fact that the patient could not speak English, made the diagnosis a difficult one. The patient sank rapidly and died two days after admission to the hospital.

At autopsy, the peritoneum was covered with a thick, dark brown putrid exudate. The peritoneal cavity was distended with foul-smelling gas. Peritonitis had resulted from intestinal perforation.

The finding of shifting liver flatness was the all important sign in the differential diagnosis of this case; certainly more valuable than the finding of tympany in the mamillary line. This sign, when unquestionably positive, is a great aid in the diagnosis of intestinal perforation.

1130 Rialto Building.

A FURTHER NOTE ON THE USE OF RAW STARCH IN THE TREATMENT OF DIABETES MELLITUS

E. B. KNERR, M.D.
KANSAS CITY, MO.

In a previous article¹ the writer presented his discoveries of the use of raw starches in the treatment of diabetes. Subsequent observation has served only to emphasize the benefits to be derived from the use of raw starch in the treatment of this disease. If the patient is reached early in the course of his disorder the procedure outlined in the above reference has proved adequate in all cases. But where the condition is far advanced and the patient much weakened by the disease the fight may be a long and losing one. But even here the use of raw starch may prove to be the saving factor along with the proper control of other foods taken. With these patients too much food of any kind may be as harmful as the eating of sugar. They are very hungry all the time and no matter how freely they partake of carbohydrate-free diets their emaciation continues to grow worse and their appetite is never appeased. Their glycosuria persists as well as their ketonuria. A substitution of raw starch and green foods for all other carbohydrates improves their condition in many respects but may not quite clear up their sugar or their acetone. What shall be done with these cases?

One such was in the writer's care when the experimental work of Dr. Frederick Allen² came to his notice and furnished a ready solution to the problem. This patient came under my treatment Oct. 1, 1913, a charity charge in the German Hospital, Kansas City, Mo. His acidosis was severe, sugar 3.4 per cent. in five quarts of urine in twenty-four hours. He was very weak and unable to walk. Under the raw starch treatment he was able to return to his home in six days and he continued to improve steadily for several months, even to the ability to go to work. His urine reduced to a normal quantity and his sugar dropped at times as low as 0.3 per cent., but it never entirely cleared up. A trace of acetone and diacetic acid was always present even at the best. At times the sugar would shoot up to 2 and 3 per cent. and the acidosis would get bad. Possibly at such times he overindulged in eating, though as a rule he professed to stick to the diet closely. After some months a retinitis developed and his vision became very poor, with intervals of improvement. At no time, however,

1. Knerr, E. B.: The Treatment of Diabetes Mellitus, *THE JOURNAL of the Missouri State Medical Association*, October, 1913.

2. Allen, Frederick M.: Studies Concerning Diabetes, *Jour. Am. Med. Assn.*, Sept. 12, 1914, p. 939.

was he bedfast except the few days on entrance to the hospital.

Nov. 27, 1914, this same man was again taken to the hospital for the purpose of treatment under a modified course suggested to my mind by the results published by Allen² of his experimental diabetes in dogs. Allen's suggestion in his article is to starve the diabetic to a sugar-free condition. Make him burn up all the sugar he has in his system before allowing him more in the form of carbohydrates. He admonishes to watch the patient carefully for coma while starving him and combat acidosis with alkalis.

My procedure was to put the patient to bed and allow him nothing whatever except a dram of raw cornstarch stirred in a glass of warm water every two hours. The result was most gratifying. Both sugar and acidosis decreased gradually, and on the morning of the fourth day the urine was without a trace of either, for the first time in more than a year that he had been under observation, and it is not known for how long a period prior to that. As soon as the sugar was gone he was allowed an increase of food very gradually. The first addition was an egg beaten in a glass of water with 2 drams of 25 per cent. alcohol added, at 10 a. m. and 3 p. m. The next day was added a cup of weak, clear, hot coffee and an egg for breakfast; for noon a little scraped steak cooked in butter and some lettuce or celery with salt and butter; for supper an ounce of washed curds with butter and some salt and pepper, lettuce or celery. The same items were allowed on following days with increased quantities. Then other meats were substituted for the minced steak and the amounts very slowly increased, the raw starch being given all the while every two hours of the waking periods. The urine was carefully examined twice daily, while the diet was being increased to catch the first signs of returning sugar. On the tenth day a trace was observed as a warning that the patient was getting all the food he could take care of with safety. Beyond that he must not go. Again, for twenty-four hours all food except the raw starch and water was denied and the sugar warning disappeared. The diet of tolerance in this case proved to be quite meager, consisting only of a cup of weak, clear, hot coffee for breakfast and noon; a cooked egg for breakfast; green celery, cabbage or lettuce, with salt, pepper and butter for all meals; some form of meat in addition for dinner and the washed curds dressed with salt, pepper and butter for supper. The regular administration of raw starch furnished further considerable nourishment. Under this restricted diet the patient was soon suffering less hunger than he experienced while eating large quantities of

carbohydrate-free foods. His strength also picked up, and by the twentieth day when he left the hospital, he had gained 2 pounds in weight. His vision on entrance was very bad. He could not distinguish objects beyond ten feet distant, but by the end of the week when his sugar was gone he could see across the ward, about thirty feet, and in ten days he could see objects across the street from his window; in twenty days he could distinguish wagons and automobiles two blocks away.

During the starvation period the raw starch serves two purposes: It supplies considerable nourishment and it prevents acidosis, so there is no danger of coma and no need of alkaline dosage, and the patient suffers none of the distress of the rigid starvation regime. All wines and some whiskies and brandies contain some sugar, so I prefer pure alcohol if any is to be given at all. Its only advantage is to modify the taste of the raw beaten egg.

With the offering of this further note on the treatment of diabetes by the administration of raw starch, the writer feels that he has covered all cases that have come under his observation, having cleared up both the acidosis and the glycosuria in every instance where he has had proper control of the patients. He does not claim that he has cured their diabetes, but he has placed them in a condition where they can control the disease and live in comfort so long as they keep their diet within their individual proper bounds.

3338 Broadway.

SKIN GRAFTS IN ULCERS

A report of fifty cases of ulcers treated by skin grafts in the Johns Hopkins Dispensary is given by J. S. Davis, Baltimore (*Journal A. M. A.*, Feb. 13, 1915). The grafts are kept in position by placing overlapping strips of rubber protective, or a sheet of paraffin mesh, and securing this and the overlying gauze dressing with numerous strips of adhesive plaster. Over this is placed again more gauze and a snug gauze bandage and finally a muslin or crinolin bandage. Sometimes with these, thin strips of splint wood were incorporated with the dressings, so as to insure the perfect rest required, and still allow the patient to go about his daily occupation. All the grafts were autografts, small deep grafts being generally used. When placed close together sometimes the ulcers were covered with epithelium within a week. Sometimes when a partial grafting was done or when only a portion of the grafts were successful, a second grafting was required. In some cases, several successive graftings were ineffective, but several of these cases were subsequently successfully grafted as hospital patients. The failures were mostly confined to the feet and legs, and no case of actual recurrence has been observed on the same site in patients successfully grafted. Davis feels that these results in ambulatory cases will make for hospital economy and add materially to our resources in out-patient cases.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3525 Pine Street, St. Louis, Mo.

FEBRUARY, 1915

EDITORIALS

OPTOMETRY BILL INTRODUCED

Just as we are going to press we learn that the optometry bill has been introduced in both houses of the General Assembly. Senator Anderson Craig of Nodaway County, representing the counties of Atchison, Gentry, Nodaway and Worth, introduced it as Senate Bill No. 416. Mr. William Hicks of Kansas City, representative from the third district of Jackson County, introduced the bill in the House of Representatives as House Bill No. 762.

The bill as introduced is more specious and misleading than the bill proposed in the last session of the legislature. For the information of the members we publish the bill on another page.¹

The bill prohibits the use of titles only in general terms and does not specify what titles cannot be employed, hence it would be the easiest kind of evasion for optometrists to mislead the people concerning their knowledge of eye defects and diseases of the body and induce a sense of security as to their ability to correct abnormalities of the eye and of other organs which would be extremely dangerous to the physical welfare of the people.

The State Association and the county medical societies are opposing the passage of the bill for the reason that it will give state sanction for optometrists to practice a branch of medicine without taking a course in medicine as now prescribed by law. Every county society should immediately take action to oppose the passage of this bill and send a copy of the resolution to their senators and representatives.

FIFTY-EIGHTH ANNUAL MEETING, ST. JOSEPH, MAY 10, 11, 12, 1915

We are fortunate in securing an ideal hall for the sessions of the Association at St. Joseph. The Scottish Rites Cathedral has been placed at our disposal and all sessions will be held in that commodious and attractive building.

The House of Delegates will meet on Monday and endeavor to complete its labors on that day.

1. See page 80.

The scientific sessions will begin on Tuesday and continue without interruption until Wednesday evening.

An innovation has been arranged by the Committee on Health and Public Instruction and the Program Committee for Sunday, May 9. On that day the churches of St. Joseph will be turned over to the medical profession and lectures by our members will be delivered on preventive medicine for the instruction and enlightenment of the people.

It will be Health Sunday in St. Joseph; an undertaking similar to the annual Health Sunday at the A. M. A. meetings.

The outlook for the meeting is most encouraging and the attendance will undoubtedly surpass any meeting in the history of the organization.

We won't tell you what Buchanan County doctors are fixing up for you. It is fourteen years since the Association met in St. Joseph, so they have a big surplus of enthusiasm for the occasion.

Kansas City also wants to show you something and if all goes well the doctors there will arrange a series of clinics beginning on Thursday following the adjournment of the meeting at St. Joseph.

Make your preparations now to attend this annual gathering of the organized profession. Hear and discuss the papers. Meet old friends and make new ones.

The secretary has a scheme that will make it easy to get acquainted with the members.

And don't forget the exhibits. We will have a lot of them, accessible and in proximity to the meeting hall.

Bring your pocket card with you.

AMENDMENT TO THE CONSTITUTION

An amendment to the Constitution was introduced at the session in Joplin, 1914, action upon which will be taken at the St. Joseph session this year. The amendment follows:

Amend Article IV, Section 2 of the Constitution entitled "Members," by inserting after the word "be" in the second line the words "such of," and after the last word of the section add the words "as shall be approved by this Association," so that the section shall read:

"Article IV, Section 2, Members. The members of this Association shall be such of the members of the component county societies as shall be approved by this Association."

The purpose of this change is in the interest of the county societies and the state organization and prompted by reason of the fact that instances have occurred where county societies were misled concerning the eligibility of appli-

cants and induced to elect persons who were objectionable at their former places of residence. The amendment is intended to guard against the admission of persons who are a menace to the organization and unfit for the honor of membership. Under this amendment the State Association would have authority to hold the admission of such persons in abeyance until the County Society has opportunity of investigating the character of the applicant.

This brief explanation is made so that members shall not misunderstand the purpose and intent of the proposed amendment. The proposition has been forwarded to the secretaries of the affiliated societies as required by the constitution and by-laws. It should be discussed at the next meeting of each county medical society and delegates instructed how to act at the session of the House of Delegates at St. Joseph.

THE ANTINARCOTIC LAW

The antinarcotic law designed to control and limit the sale of habit-forming drugs, recently passed by Congress, will become effective March 1. On and after that date it will be unlawful for physicians to have in their possession any opium or coca leaves or their salts, derivatives or preparations, unless they are registered with the United States internal revenue collector of their district. The law applies therefore to morphin, heroin, cocain, codein, etc. In order to have authority to handle these drugs in any way it is necessary for physicians to register with the collector of internal revenue and pay a tax of \$1 on or before March 1 and annually thereafter renew the registration on July 1. You cannot purchase these drugs unless you are registered, and then only on an order blank supplied by the revenue collector; nor can you dispense or distribute them in any way except in the course of your professional practice; even then you must keep a record of every instance where you dispense or distribute the drugs, the record to show the amount dispensed or distributed, the date and the name and address of the patient to whom the drugs were given. Such record, however, is not required where you are in personal attendance on the patient. The record must be kept for two years and be open to inspection of the revenue department at all times.

Physicians registered under the act may give a written prescription for the drugs in the performance of their professional duties without using the special blank of the revenue department, but the person filling the prescription must keep it on file for two years.

The law does not apply to preparations or remedies which do not contain more than 2

grains of opium or more than $\frac{1}{4}$ grain of morphin, or more than $\frac{1}{8}$ grain of heroin or more than 1 grain of codein to the fluidounce, nor to preparations for external use only.

Employees of registered physicians and nurses under the supervision of registered physicians and physicians themselves registered under the act are exempt.

A penalty is assessed of not to exceed \$2,000 or imprisonment of not more than five years or both, for violation of the law.

Registered physician in this description refers to a physician registered with the collector of the internal revenue of his district; it does not refer to registration under the state law governing the practice of medicine.

POISONOUS FLY DESTROYERS

The December issue of the *Journal of Michigan State Medical Society* calls attention editorially to the danger of using poisonous fly destroyers.

From July 1 to October 15, 1914, forty-five cases of poisoning of young children were reported in the press of a few states, and it is pointed out that the symptoms of arsenical poisoning and cholera infantum being very similar there are possibly many more cases of the kind. It might be well in view of this danger for physicians to eliminate the possibility of arsenical poisoning before diagnosing a case as cholera infantum. A few years ago there was considerable agitation against the use of phosphorous matches, partly because of some children being poisoned by eating or sucking the match-heads. There are doubtless many more cases of poisoning from ingesting poisonous fly destroyers. Phosphorous matches have been abolished. Poisonous fly-killing preparations ought to be abolished.

This danger has been recognized by some authorities. In faraway South Africa the sale of certain arsenical fly destroyers has been forbidden except by licensed chemists; the ban applies particularly to tin boxes which have a wick through which the poisoned water is drawn. The fact that sugar is added to draw the flies makes these boxes especially dangerous to young children; furthermore, these poisonous fly destroyers are usually placed on the window sill and children as well as flies are attracted to the windows where the poisons are within their reach.

Both the blotting paper impregnated with arsenic (which is put in an open saucer with water and sugar) and the tin boxes with wicks to draw the poison water to the surface, are extensively used. In country homes where it often takes some hours to get a physician, and

in cities among the foreign born where the parents are slow to seek the services of a physician for childish ailments, the danger is especially great.

THE STATE SANATORIUM FOR TUBERCULOSIS

The Missouri State Sanatorium for incipient tuberculosis is anxious that all members of the State Medical Association shall be familiar with the operation of that institution, with the splendid results that are being realized in the care of the patients, with the influence it exercises among the people as an educational factor. The Board of Directors has therefore purchased a half-page of advertising space in our JOURNAL knowing that the members give this department very close attention. Beginning with this issue the sanatorium will have an announcement in each number during the next twelve months. We hope all members will take an interest in the state sanatorium and learn of the work that is being accomplished there.

REPORTING CONTAGIOUS DISEASES

The recent outbreak of smallpox in one of the private hospitals in St. Louis, due to the careless indifference of one of the staff physicians, should give pause to all members of the medical profession and especially to members of the organized medical profession who have permitted themselves to be swayed from the line of duty in reporting infectious diseases to the local board of health. Briefly, the physician in question discovered a nurse suffering from an eruption which he diagnosed chickenpox. It proved to be smallpox. Had he recognized the condition as smallpox he would have notified the health department immediately, but chickenpox—pouf, what's that!

For his failure to recognize the true condition none will censure the physician, because few doctors outside of the departments of health can positively diagnose smallpox nowadays. By his failure to obey the laws of the city and take intelligent precaution to protect the public health the physician not only violated the city ordinance, but disregarded the precepts and principles governing the practice of medicine and this Association, of which he is a member. Laid upon him by the organic law of his Association this obligation, however, is instinctive with the true physician. Those who are devoid of this attribute or who resist its influence are a menace not only to the public, but to the profession. Of such are those persons who possess a med-

ical degree and become quacks preying upon the fear and ignorance of the people; physician owners of patent medicines who defraud and deceive by false claims both as to therapeutics and contents of the article sold; and that large class of non-medical persons who grow rich by lying, deceit and trickery in selling utterly worthless concoctions for every conceivable human frailty. Sooner or later the law of the land has an opportunity to deal with all these classes, but rarely we regret to say with a full measure of just punishment for the offense committed.

There is still another class of physicians far too numerous, who find plausible excuse to muffle the voice of conscience when treating diseases that spread contagion in a community and for one reason or another conceal the fact. They take a chance, but they finally come to grief as did the physician and hospital authorities who tried to conceal what was thought to be chickenpox—a reportable disease. Both the physician and the families who are parties to such conspiracies should be punished.

THE MISSOURI FOUNDATION FOR HEALTH CONSERVATION

The formation of societies composed chiefly of non-medical persons with the object of conserving the health of the people is an evidence of the widespread influence of the propaganda inaugurated by the organized medical profession in its effort to instruct the people in the elementary principles of health protection. In all parts of the country such societies have been organized and now exert a powerful influence for good. The most recent instance of the kind that has come to our notice is the formation of a league in St. Joseph, Mo., known as the Missouri Foundation for Health Conservation. The society is incorporated under the laws of Missouri and is responsible to the Methodist church, although the charter and the laws governing the control of the Foundation declare that it shall be non-sectarian and provide for a number of persons on the Board of Control who shall not be members of the Methodist church. In another column we publish the announcement of the organizers, which gives a comprehensive presentation of the forces that led to the formation of the body.

We have long viewed with considerable interest this tendency on the part of the people to form leagues and associations whose purpose is to disseminate information concerning the protection of human health and life. We believe the time has come when a consolidation of these numerous bodies should be effected with a cen-

tral head from which should radiate the activities of all the subsidiary organizations. There is no undertaking more worthy of the support of the people than one which has for its object the conservation of human health and life. Divided and individual effort, however, cannot accomplish this object with the full measure of success that would attend united, harmonious and countrywide endeavor. While we commend the efforts of the St. Joseph citizens and hold ourselves ready at all times to encourage the Foundation, we believe it is unwise to increase the number of such voluntary organizations. The Council on Health and Public Instruction of the American Medical Association is now gathering information concerning such associations for the purpose of recommending their amalgamation with a central federated head as suggested above. The report of the Council will probably be ready for the San Francisco meeting of the American Medical Association next June and will no doubt suggest a plan for unifying these scattered efforts of philanthropic persons to protect the public health.

NEW ADVERTISEMENTS

In addition to the announcement of the state sanatorium in our advertising pages, it gives us great pleasure to add to our list of advertisers the firm of F. R. Squibb and Sons. We have a number of manufacturing chemists advertising in our pages, all of them deserving the confidence and respect of the medical profession. To this list the members will heartily welcome the house of Squibbs. It is always a source of gratification to have makers of preparations prescribed by our members support us in our effort to publish THE JOURNAL.

Another new advertisement in this issue is the Washington University. They announce their spring course of studies for graduates. The enlarged facilities for teaching in the extensive new buildings of the university will undoubtedly attract a large attendance.

OBITUARY

GEORGE ALLEN NASH, M.D.

Dr. G. A. Nash, 66 years old, a pioneer surgeon of Northwest Missouri, died at his home in Maryville, Jan. 8, 1915. Dr. Nash was a graduate of St. Joseph Hospital Medical College, 1879, and a member of the Nodaway County Medical Society and the Missouri State Medical Association.

J. McBRIDE JOHNSON, M.D.

Dr. J. McBride Johnson, of West Plains, died in a hospital at Springfield in November, 1914. He was 53 years old and graduated from the Kentucky School of Medicine, 1899. He had been in poor health for several years and his death was not unexpected. He was a member of the Howell County Medical Society and the Missouri State Medical Association.

ROBERT S. BENNETT, M.D.

Dr. Robert S. Bennett of Drexel died in Kansas City, Jan. 23, 1915. He was born in West Virginia, May 24, 1851, and was 63 years old. He graduated from the Kansas City Medical College, 1877, and practiced in Cass and Bates counties almost continuously from that time. He joined the Cass County Medical Society, Jan. 1, 1911, and was a member of that society and the Missouri State Medical Association up to the time of his death.

WALDEMAR E. FISCHER, M.D.

Dr. Waldemar E. Fischer of St. Louis died at his home January 9 by taking gas with suicidal intent, age 37. He was a graduate of the Marion-Sims Medical College of St. Louis (Medical Department of St. Louis University), 1898, and had studied abroad extensively, specializing in ophthalmology. Dr. Fischer was one of the most prominent young physicians in this section of the country and devoted to his special work in which he ranked among the most expert and competent men in the profession. He recently suffered severely from nervous irritability, undoubtedly the result of long continued and close application to his work. He was a member of the St. Louis Medical Society, the Missouri State Medical Association and a Fellow of the American Medical Association.

WILLIAM GRANT MOORE, M.D.

The entire profession was shocked the latter part of January when the death of Dr. William G. Moore of St. Louis was announced. He had been ill only a short period, being attacked with pneumonia that rapidly sapped his strength and caused his death on January 28, age 61. His literary education was received at the old Transylvania University, at Lexington, Ky., and at the Washington and Lee University. He was a graduate of Jefferson Medical College, 1875, and had practiced in St. Louis for nearly the entire period of his professional career. He was president of the Missouri State Medical Association in 1903, vice-president of the American Medical Association in 1910-1911.

and a former president of the St. Louis Medical Society. For many years and until the time of his death he was among the most active members of the organized profession, always cheerfully assuming his share of the burden of any work the organization undertook to do. He was a forceful and fluent speaker and made memorable many meetings of the Association and gatherings of its affiliated societies by his delightful and entertaining addresses. He was a generous, warm-hearted, cultured gentleman, an ideal physician and a true friend. His memory will be held dear by a host of followers in the profession and among the laity, not only in Missouri, but all over the country.

NEWS NOTES

CHARLES BRAND of St. Louis, who poses as a herbalist and solicits patients through the mail, has been arrested by the federal authorities at St. Louis for using the mails to defraud. He was released on bond.

DRS. FAYN, LLOYD AND WIELAND, advertising doctors of St. Louis, who were released several weeks ago by the United States Court on account of a faulty indictment, have been rearrested on a new indictment.

KANSAS CITY HEALTH DEPARTMENT has begun a campaign against merchants who attempt to withhold the sale of fresh eggs and in their place put on the market the accumulated stock of storage eggs. Two convictions have been obtained.

E. M. EWING, son of Dr. Fayette C. Ewing, of St. Louis, has been elected professor of physiology in charge of the department at Fordham University Medical College, New York, in place of Dr. Kraur returned to Germany.

THE annual meeting of the Society of Medical Secretaries will be held at St. Joseph during the session of the Association, May 10. Secretaries desiring to present papers at the meeting should address Dr. T. O. Klingner, Crank Building, Springfield, Mo.

DR. D. B. FARNSWORTH of Springfield was the recipient of a gold-headed cane presented by the members of Greene County Medical Society recently. Dr. Farnsworth has served the society as treasurer for sixteen years, but declined reelection this year.

By the will of the late Mrs. Wm. McMillan of St. Louis, Washington University will come into possession of about \$1,000,000, which will be used for the establishment of an eye, ear, nose and throat hospital at St. Louis. The need of such a hospital in that city is very great.

At the December meeting of the Board of Directors of the Barnard Free Skin and Cancer Hospital at St. Louis it was decided to discontinue the research department as at present operated, the order to take effect April 1. The present financial situation is responsible for the retrenchment.

DURING January the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Hynson, Westcott and Co.: Glycotauro Capsules (half size).

Eli Lilly and Co.: Alcresta Ipecac Tablets.

Merck & Co.: Cantharidin, Merck.

H. K. Mulford Co.: Luetin.

ON January 9 the new buildings of the St. Louis Children's Hospital, which was opened for patients on December 3, were dedicated. The exercises were brief, consisting of a report of the building committee presented by Dr. G. M. Tuttle, and the acceptance of the buildings by Mrs. R. McKittrick Jones, president of the board of managers. Dr. Borden Veeder spoke on the "Relation of the Hospital" to the community.

DR. C. R. WOODSON of St. Joseph was assaulted by a man named Hugh Winn who called at the doctor's office and said he wanted advice on professional matters. On entering the office, Winn drew a revolver and threatened to shoot Dr. Woodson who at once grappled with him, but was struck on the head with the pistol before he could overpower the man. The blow fractured the outer plate of the frontal bone. At last reports Dr. Woodson was recovering from the attack. Winn claims he was drunk and says he has no recollection of the assault.

THE American Open Air School Journal is the title of a new monthly publication. The first number appeared in December. It is intended to make known the benefits of fresh air class-rooms and is the official organ of the American Open Air School Association with headquarters at Philadelphia, Pa. It contains reports of practical work in all parts of the country and will interest parents, health officers, educators, medical school inspectors and all per-

sons interested in promoting the welfare of schoolchildren. The subscription price is \$1 per annum.

EXAMINATIONS of candidates for assistant surgeon in the United States Public Health Service will be conducted at the Marine Hospital in St. Louis, March 8. Candidates must be between the ages of 23 and 32 years, graduates of reputable medical colleges and have had one year of hospital experience or two years of professional work. The pay of assistant surgeon is \$2,000 per annum and allowances. Tenure of office is permanent. For invitation to appear before the Board of Examiners, applicants should address the Surgeon-General, United States Public Health Service, Washington, D. C.

THE Defense Committee reports a malpractice suit recently instituted against several members jointly, as having been dismissed by the plaintiff's attorney when the trial was called. The Defense Committee advised with the members who were therefore well prepared for the contest. It is another evidence of the importance of this privilege of membership. In former years the timidity and unpreparedness of physicians to defend themselves against these attacks often induced them to compromise on the best terms they could obtain. Evidently, that is what the plaintiffs in the case mentioned here expected the physicians to do. Organization and unity of purpose among the doctors themselves is bringing about a great change not only in this, but in other matters affecting the material interests of the reputable practitioners and greatly to their benefit.

IN the Examination for Medical Licensure held by the Missouri State Board of Health in St. Louis, Dec. 14-15-16, 1914, the following passed:

Baskette, Henry Wasson.
Biggs, Marion Oley.
Brackeen, Thos. Calvin.
Cook, Ralph Lion.
Crabtree, Benjamin F.
Deatherage, Wm. Newton.
Edwards, Orville Logan.
Glasscock, James Alford.
Guy, William Hilary.
Long, Albert Anderson.
Martin, Wallace Marsh.
Meyer, Hilary Dennis.
Newton, Frank Hawley.
Reed, Elizabeth B.
Summers, Harmon Lewis.

The following failed:

Bateman, Samuel Harvey.
Glasco, Loren A.
Kleissle, W. Benton.
Martin, Prince Edward.
Mohr, Chas. Albert.
Neunlist, Percy Carl.
Penn, Robert McCulloch.
Posnausky, Monty Max.

THE American Gynecological Club, the members of which are specialists in gynecology and obstetrics, met in St. Louis, January 29 and 30. Dr. W. W. Chipman of Montreal is president, Dr. George Gellhorn of St. Louis, secretary-treasurer, and Dr. F. F. Simpson of Pittsburgh, Dr. H. C. Taylor of New York and Dr. R. L. Dickinson of Brooklyn are members of the council. The following program was arranged for the meeting:

Friday, January 29, 1915

8:30 a. m. to 12 m., city hospitals, gynecological operations—Drs. Ehrenfest, Taussig and Gellhorn.

12 m. to 12:45 p. m., automobile ride through Forest Park to Washington University.

1 to 2 p. m., luncheon tendered by Dr. F. J. Taussig.

2:15 to 4 p. m., St. John's Hospital: gynecologic operations—Dr. John Young Brown.

4 to 6 p. m., tea at the residence of Dr. and Mrs. Gellhorn.

7:30 p. m., dinner at the University Club.

Saturday, January 30, 1915

8 to 8:45 a. m., St. Anthony's Hospital: abdominal operations—Drs. Bartlett, Blair and Ellis Fischel.

9:30 a. m., Barnes Hospital: abdominal operations—Dr. F. J. Murphy; gynecologic operation—Dr. H. S. Crossen; obstetrical Demonstrations—Dr. Henry Schwarz. Inspection of Barnes Hospital.

1 p. m., luncheon tendered by Mr. R. S. Brookings, president of Washington University.

2 p. m., address by Dr. E. L. Opie, Professor of Pathology and Dean of the Washington University Medical School; demonstrations by Dr. R. J. Terry, Professor of Anatomy, Washington University Medical School.

4 p. m., business meeting of the club.

5 p. m., meeting of the American Gynecological Society; 6 p. m., Executive Committee meeting of the International Congress of Gynecologists.

7:30 p. m., annual dinner at the Jefferson Hotel.

Dr. George Gellhorn of St. Louis was elected president for 1915.

MEMBERSHIP CHANGES, JANUARY

NEW MEMBERS

Frank W. Bennett, Plattsburg.
 Homer Beall, Malden.
 Warren W. Bland, Vandalia.
 Morris H. Clark, Kansas City.
 Harry S. Conrad, St. Joseph.
 W. O. Culpepper, West Plains.
 J. D. Ferguson, Sparta.
 Walter A. Fansler, Milwaukee, Wis.
 John Francis Dodson, Kirksville.
 Herbert H. Hagan, St. Louis.
 John E. Hollingsworth, Vandalia.
 Grace Huse, St. Louis.
 Joseph D. James, Springfield.
 John D. Jackson, St. Louis.
 Percy J. Kesling, Campbell.
 Edward Kultgen, Elaine, Ark.
 Drew Luten, St. Louis.
 Z. T. Knight, Fulton.
 O. B. Mayes, Centralia.
 Charles Moore, Advance.
 Sarkis K. Merdanian, Harviell.
 Karl Mallatte, Maryville.
 Neil S. Moore, St. Louis.
 H. S. Maxwell, Hopkins.
 Harold F. Ohrt, St. Louis.
 Wm. H. Olmsted, St. Louis.
 Isaac H. Odell, Cape Girardeau.
 Grover C. Plummer, Thomasville.
 Mazyck P. Ravenel, Columbia.
 E. G. Rhodius, Potsdam.
 Julius C. Rotter, St. Louis.
 Sam E. Roberts, Kansas City.
 John O. Skinner, Kansas City.
 Harry A. Simrell, Stockton.
 Omar R. Sevin, St. Louis.
 Bernard H. Swart, Kansas City.
 Andrew J. Tucker, Sedalia.
 Gura A. Tull, Kansas City.
 Warner H. Wagner, Berger.

REINSTATED

A. R. Greenlee, Kansas City.
 Ulysses G. Strieby, Brownington.
 Rollin J. Smith, Appleton City.
 Squire H. Redmon, Tipton.

CHANGE OF ADDRESSES

F. C. Ameiss, St. Louis to Paragould, Ark.
 Thos. S. Bishop, Albany to Springfield.
 S. G. Burnett, Kansas City to San Antonio, Texas.
 Robert I. Davis, Eminence to Birchtree.
 Martin G. Fronske, St. Louis to Flagstaff, Ariz.

E. W. Guilford, Waterbury, Conn., to Monroe City.

P. D. Gum, Birchtree to West Plains.
 John E. Hammer, Mercer to Hardtner, Kan.
 E. E. Holtzen, Sedalia to Smithton.
 Robert J. Jennings, Leesville to Windsor.
 I. N. McNutt, Pevely to Knoxville, Tenn.
 Isiah M. Owens, Beaufort to Leslie.
 John M. Robertson, Bunceton to Latham.
 J. G. Rafter, Huntsville to Muskogee, Okla.
 F. M. Ryan, Quitman to Maryville.
 Samuel Sheldon, Kansas City to Clinton.
 N. I. Stebbins, St. Louis to Clinton.
 Clarence V. Smith, Danville, Ill., to Elwood, Ind.
 L. W. Wuestoff, West Plains to Elgin, Neb.

DROPPED OR RESIGNED

Joseph G. Beaty, Clinton.
 L. F. O'Brien, St. Louis.
 Robert Q. Kelly, California.
 Chas. R. Reider, St. Louis.
 Wm. F. Schlicht, Niangua.
 Loren G. Shroat, Strafford.
 David A. Williams, Niangua.

DECEASED

Robert S. Bennett, Drexel.
 Ira A. Cottingham, Carthage.
 F. Robert Boyd, Waldron, Mich.
 Waldemar E. Fischer, St. Louis.
 J. W. Gains, Kansas City.
 George A. Nash, Maryville.
 Wm. W. Stevens, Kansas City.

CORRESPONDENCE

TREATMENT OF ASTHMA

MOUNTAIN GROVE, Mo., Jan. 26, 1915.

To the Editor:—Please allow me space in THE JOURNAL to comment on the article of Dr. Brown in the January number, where he recounts the good effect of $\frac{1}{4}$ to $\frac{1}{2}$ grain of morphin with $\frac{1}{20}$ grain of strychnin in a case of asthma, as I have recently had equally good results in several cases by another combination, especially in one case that I will mention.

I was called to see a man of about 58 who had been troubled with asthma all his life, and was also troubled with a chronic bronchitis with considerable coughing, as Dr. Brown mentions. I found him suffering very much for breath, and having some hypodermic tablets of a formula recommended especially for such cases, I

gave one and the relief was almost like magic. It was morphin $\frac{1}{20}$ gr., strychnin $\frac{1}{50}$ gr. and nitroglycerin $\frac{1}{50}$ m. I afterward prepared the same formula in aqueous solution to be taken by the mouth and the effect was the same. He kept it in the house for several months and found that when he felt difficulty of breathing coming on he could take a dose and go to work for five or six hours without any trouble. Some days he took only one dose, on other days none at all, and some days three or four. After a year's use its effect had not decreased. Once I was out of nitroglycerin and let him try it with only the morphin and strychnin, but he experienced no relief. Perhaps he would have done so if he had used the doses mentioned by Dr. Brown. One other similar case failed to get any relief from the same formula.

A. C. AMES, M.D.

MISCELLANY

SENATE BILL NO. 416

Forty-Eighth General Assembly

Introduced by Senator Craig. Read first time Jan. 29, 1915, and 400 copies ordered printed

W. A. Norman, Secretary

AN ACT

To define and regulate the practice of optometry; creating a state board of optometry, board how appointed; qualification of members; meetings; expenses how paid; offices; certificate, signed by whom; annual reports, contents; examination of applicants for registration, how conducted, license to practice granted, when; fees and disposition of same; license, may be refused whom, may revoke for cause; violation of the act and penalty.

Be it enacted by the General Assembly of the State of Missouri, as follows:

Section 1. The practice of optometry is defined to be the employment of any method or means other than the use of drugs for the measurement of the powers of the vision and the adaption of lenses for the aid thereof.

Sec. 2. There shall be a board of registration in optometry consisting of five persons, each of whom shall be a citizen of Missouri, and each of whom shall have been actually engaged in the practice of optometry as defined in section one of this act, for the five years next preceding his appointment. No member of the board shall be a stock holder, a member of the faculty, or a member of the board of trustees of any school of optometry. The governor within thirty days after the passage of this act, shall appoint five persons as members of said board, one for a term of one year, one for a term of two years, one for a term of three years, one for a term of four years and one for a term of five years, who shall hold said offices until their successors be appointed. Thereafter one member of said board shall annually in the month of

September, be appointed by the governor for the term of five years and until his successor is appointed. Vacancies in the board shall be filled by the governor.

Sec. 3. The board shall meet on the second Tuesday in January of each year, in the city of Jefferson City, Missouri, and shall organize by electing a chairman, secretary and treasurer who shall all be members of the board and who shall hold their offices for the term of one year. The treasurer shall give bond with sufficient sureties to be approved by the governor of the state for the faithful performance of his duties. The board shall annually hold regular meetings on the second Tuesday in January, June, November and additional months at such times and places as it shall deem necessary.

Sec. 4. The board shall keep the record of the names of all persons who make application for examination and of all moneys received and disbursed by it and said record shall be open to inspection at all times. The fee received by the board shall be paid monthly by the treasurer into the treasury of the state. The board shall annually on or before the first day of June make a report to the governor of the condition of optometry of this state, all of its official acts during the preceding year and of its receipts and disbursements.

Sec. 5. After Oct. 1, 1915, except as otherwise provided in this section, no persons shall practice optometry as defined in section one of this act, until he shall have passed an examination conducted by the board, in theoretic, practical and physiological optics, theoretic and practical optometry, and in the anatomy and physiology of the eye, and shall have received a certificate of registration, which certificate shall have conspicuously printed upon its face the definition of optometry as defined in section one. Each applicant for examination shall present satisfactory evidence, verified by oath that he is over twenty-one years of age, of good moral character, has had a preliminary education equivalent to at least two years in a public high school, and has also studied the subjects herein prescribed for at least two years, or has graduated from a school of optometry maintaining a course of study of not less than two years; but any person actually engaged in the practice of optometry in this state at the time of the passage of this act shall be entitled to take such examination merely upon proof satisfactory to the board that he is of good moral character. Any person who has been actually engaged in the practice of optometry in this state for one year or longer preceding the date of the passage of this act may continue in such practice for a further period of two years from the said date without taking the said examination and without the said certificate, provided that he shall, on or before said first day of October, file with the board an affidavit stating his name, usual place of business and the date of his commencing such practice, the affidavit to be signed by three reputable merchants certifying as to his character and business standing, and to be satisfactory to the board. Any person whose affidavit has been so accepted and recorded and who is in actual practice shall, before the expiration of said period of two years, if he desires to continue such practice thereafter, present himself before said board for examination, and if the board is satisfied, of his competency to practice optometry, he shall be registered and receive a certificate as aforesaid. The original appointees to the board of registration shall be entitled to certificates of registration by virtue of their appointment without examination. The fee of any examination shall be twenty-five dollars (\$25), and those passing the examination shall receive a certificate of registration without additional charge

except that any applicant who fails to pass a satisfactory examination shall be entitled free of charge to one reexamination after the expiration of three months, but for each subsequent examination he shall pay a fee of five dollars (\$5).

Sec. 6. Said board of optometry is hereby authorized to ascertain and determine what shall constitute an adequate and reputable optometry college, but no such optometry college shall be considered to be adequate and reputable by said board unless the same shall possess the following qualifications: It shall be chartered under the laws of the state in which it is located and operated; it shall deliver annually a full course of lectures and instructions in the following subjects: optical mathematics; physics; theoretical optics; physiology of the eyes; and practical optics. Said course of instruction to consist of not less than two terms on separate academic years, and of not less than thirty weeks of six days each for each term. The apparatus and equipment in each of said optometry colleges, shall be ample for the ready and full teaching of the above named subjects.

Sec. 7. Every person to whom a certificate of registration shall be granted shall immediately display his certificate in a conspicuous place in the principal office wherein he practices optometry, and shall, whenever so required, exhibit the certificate to said board or its authorized representative; and whenever practicing the said profession of optometry outside or away from said office or place of business, he shall deliver to each customer or person fitted with glasses by him a certificate which shall contain his signature, home postoffice and the number of his certificate of registration or recorded number.

Sec. 8. Each member of the board shall receive ten dollars (\$10) for every day actually spent in the performance of his duties and his necessary traveling and hotel expenses actually incurred in attending the meetings of the board. Such compensation and traveling expenses and all other expenses incurred by the board under the provisions of this act shall be approved by the board, and paid by the state, but only to the amount paid over by the board. No money in excess of the amount so paid over shall be paid by the state for the said expenses. The salary of the secretary of said board shall be six hundred dollars (\$600) per annum.

Sec. 9. The board shall have the power to revoke any certificate of registration or the right of any recorded person to practice, or to suspend the same for fraud or deceit in practice or for conviction of crime, or for habitual drunkenness for six months immediately before the charges made, or for gross incompetency; provided, however, that before any action is taken the accused party shall have written notice of the charge or charges made against him, and a day and a place to be specified in the notice, to be at least five days after the service thereof, at which a public hearing is to be given, where the accused shall have an opportunity to produce testimony in his own behalf, and to confront the witnesses against him. Three of the members of the board shall be a quorum for any such hearing. Witnesses at hearings before the board shall testify under oath, and may be sworn by any member of the board. The board shall have power to compel the attendance of witnesses and the production of documents at any such hearing. Where the right of any person to practice has been revoked, as herein provided, the board may, after the expiration of one year, receive an application for a renewal of the right to practice, and upon such new application they may, in their discretion, grant such a renewal.

Sec. 10. Every registered optometrist shall in every year after 1916 pay to said board of examiners the sum of one dollar (\$1) as a license fee for such year; such payment shall be made to the secretary of the board prior to the tenth day of January in each and every year, and in case of default of payment of such fee by any person, and after twenty days notice of such default, his certificate may be revoked by the board of examination until such fee is paid.

Sec. 11. Whoever after Oct. 1, 1915, not being lawfully authorized to practice optometry as defined by section one of this act, holds himself out as a practitioner of optometry, or practices or attempts to practice optometry or attempts to determine by an examination of the eyes the kind of glasses needed by any person, or holds himself out as a registered optometrist when not so registered or whoever impersonates another practitioner, or fails to deliver the certificate as provided in section six of this act, shall for each offense be punished by a fine of not less than fifty dollars (\$50) nor more than two hundred dollars (\$200), or by imprisonment in the county jail for a term not exceeding three months, or by both such fine and imprisonment.

Sec. 12. The provisions of this act shall not apply to physicians or surgeons lawfully entitled to practice medicine in the state, nor to persons who neither practice nor profess to practice optometry, but sell spectacles or eyeglasses or lenses, as merchandise, from permanently located and established places of business. Nothing in this act shall be construed to authorize any person to administer drugs in any form, to practice or claim to practice medicine or surgery in any sense, or to use any title or appellation intended or calculated to indicate the practice of medicine or surgery.

THE MISSOURI FOUNDATION FOR HEALTH CONSERVATION, INC.

St. Joseph, Mo.

The Missouri Foundation for Health Conservation was granted articles of incorporation by the State of Missouri on Dec. 21, 1914. The charter, which has been in course of preparation for two years, states the purposes to be "the conservation of health and the prevention of disease to the end that human efficiency may be increased and human suffering prevented," and that these ends are to be secured by any means "that the demands of time or of science may require." The Foundation is an organization devoted to the great work of studying the problems of health and disease and exerting its energies in any manner which promises to solve them. Its activities may be many or few as the charter places no limitations upon the agencies by which it secures its results.

In future years the Foundation may find it possible to call into existence various agencies for the accomplishment of its purposes. The field is so broad that sooner or later opportunities will offer for engaging in several lines of definite endeavor.

But no matter the agencies through which it works, its aims are always scientific, social and benevolent, never commercial.

The Foundation is compelled by the charter to make an annual report of all its finances and work to the Southern Methodist Church. Such an accounting to a body that is both responsible and permanent is a guarantee to those giving money or property for the activities or endowment of the Foundation that such

gifts will be properly administered for the purposes of the Foundation. While thus required to report to the church the Foundation is an independent, self-perpetuating corporation, ten of the members being Methodists and five compelled to be members of other churches or of no church, thus assuring its non-sectarian character and a broad influence in administration.

The Foundation is financed in the same manner as are hospitals and other social agencies, by bequests, devises, subscriptions and donations, with an endowment as the goal sought.

To it all persons interested in the great movement for health betterment and disease prevention may give with the assurance that the money will be wisely administered by an organization especially created for this work and informed in the best methods of accomplishing it.

After mature deliberation the Foundation has decided that, in beginning its work, it can best promote the public good by establishing as its first activity a medical laboratory in St. Joseph, Missouri, to be known as "The Medical Laboratory of the Missouri Foundation." In order to do this it is necessary to call on the public for financial help. Since it benefits the rich as well as those of moderate means and is a necessity to all, aid is asked from all. No field of medical service makes certain to humanity larger returns for money invested. It takes twenty-five thousand dollars to kill a man in the present war. As long as its earning power continues that amount put into this medical laboratory can be made to save hundreds of lives annually.

The work of a medical laboratory may be briefly described as follows:

In the study of disease it is necessary to make chemical, microscopical, bacteriological and biological investigations. These cannot be made without scientific equipment such as test tubes, chemicals, microscopes, sterilizers, incubators, X-ray machines and other instruments of precision. The workers who use this equipment must be educated for this especial purpose as it requires long training to acquire the necessary skill and knowledge. The information obtained by these trained workers is added to that obtained by the doctor at the bedside of the patient and the sum total applied to the benefit of the one sick. The medical laboratory thus becomes a clearing house where city and country doctors may send specimens from patients for analysis and get prompt reports thereon by telephone. It thus makes possible adequate medical service in the home where ninety per cent. of all sick people are found. It brings to everyone sick at home every possible scientific aid. It helps the man sick on his far away farm just as effectively as though he were living in the same city where the medical laboratory is located. Only a small per cent. of the one million people living in the territory tributary to St. Joseph ever have done for them in times of sickness all that could be done. A laboratory test will give that evidence often necessary for correct diagnosis and treatment.

The organization of the Foundation is as follows: President, William A. Bodenhausen, St. Joseph, Mo.; vice-president, Britton P. Taylor, St. Joseph, Mo.; secretary, Daniel Morton, M.D., St. Joseph, Mo.; treasurer, William F. Goetze, M.D., St. Joseph, Mo.; Walter C. Bender, St. Joseph, Mo.; Paul M. Culver, Gower, Mo.; Squire S. Connett, St. Joseph, Mo.; Charles B. Duncan, St. Joseph, Mo.; Ralph W. Douglas, St. Joseph, Mo.; Percy Johnson, St. Joseph, Mo.; William H. Minton, St. Joseph, Mo.; Matthew H. Moore, Macon, Mo.; Ira Richardson, Maryville, Mo.; William L. Scarborough, Macon, Mo.; Albert C. Zumbrennen, Columbia, Mo.

SOCIETY PROCEEDINGS

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SCHOOL

Seventeenth Meeting, Lecture Room, Department of Pathology, Barnes Hospital, Dec. 14, 1914

33. CONGENITAL ELEVATION OF THE SCAPULA—SPRENGEL'S DEFORMITY.—

By DR. D. E. SMITH

Congenital elevation of the scapula or Sprengel's deformity, is an affection characterized by an upward displacement of one or both scapulae, with rotation on the sagittal or frontal axis. Alterations in shape and density of the bone exist. Fülenberg in Germany, in 1863, described the first three cases. In 1891 Sprengel more accurately described the affection and in 1908, 136 such cases had been reported.

The scapula in its development appears in the human embryo in the fifth week. The arm buds appear in the third week as slight swellings in the lower cervical region. As development proceeds, the shoulder gradually migrates caudally till the adult position is attained. The deformity manifests itself by the high position of the scapula, rotation of the scapula on its sagittal or frontal axis, scoliosis, torticollis, facial asymmetry, motion of the scapulo-humeral joint. It is usually noticed at birth or immediately after.

The deformity is explained by a failure of descent caused by too great intra-uterine pressure or abnormal articulations, or it may be due to an arrest of development caused by improper or defective muscular tension. Treatment consists of operative procedure or gymnastics.

This fall a case has been reported by Fetterolf and Arnett where a complete dissection was made. The subject was a male negro whose right scapula was elevated 6 c.m., and whose right upper limb was 3 c.m. less in circumference than the left at both the arm and the forearm. A bony projection from the scapula articulated with the sixth cervical vertebra.

The case which we have is a boy 3 years old, of good general health and development. Birth was normal. He began to sit at one year and held his head to one side then; left arm noticed to be short when about one year old. Curvature of the spine and elevation of the scapula are about the same now as when first noticed. The right side of his head and face is better developed than the left. He holds his head to the left. Thorax is fuller on the left than on the right. In lower cervical region there is a slight scoliosis to right; scoliosis to left in dorsal region; in upper lumbar region there is slight scoliosis to right.

Right clavicle is one-half c.m. longer than left; right half of head is one c.m. greater than left; left scapula 1½ c.m. longer than right. Left half of chest 3 c.m. greater in circumference than right. Left shoulder is 2½ c.m. higher than the right.

34. A CASE OF SYRINGOMYELIA IN A NEGRO.—By DR. L. J. KILIAN

C. B., aged 40, colored, male, single. Chief complaint: Weakness in upper and lower extremities and difficulty in walking. Family history: Negative. Polydactylism in father, brother and uncle (also in this patient.) Past history: Negative. Neisser infection at 15 years; twice since. Questionable luetic history. Habits good; no alcoholism. Began work at 7 years in brick yard. Heavy worker up to five years ago, since then physical condition has disabled him. Present trouble: Began six or eight years ago with cracking of palmar surfaces of fingers. Gradual loss of

strength in hands and arms beginning at same time. No illness. Right side the weaker. During the following two years weakness developed in legs, first noticed in left leg. Walking became difficult. Libido et potu sexualis diminished gradually. Physical Examination: Sensorium clear. Few traumatic scars. Musculature in general weak and flabby with evidence of atrophy in back, shoulders and arms including all small muscles of the hands. Claw hand effect produced. Heart, lungs, abdomen and genitalia negative. Arms, reflexes on right absent; on left biceps and periosteal radial obtained. Legs are fairly well developed, musculature soft, strength weak. Reflexes on right absent. On left, knee jerk increased. Achilles present. Babinski obtained. Abdominal and cremasteric reflexes absent. Marked right dorsal left lumbar scoliosis with rotation of spine. Sensation: Sensation to cotton wool everywhere present. Normal response to pin point present over head and left leg from hip down. Heat and cold diminished or absent over same area excepting left foot from ankle down. Sense of position and attitude of extremities and digits is good. With algometer deep pressure sense variation is within the normal. With dynameter left grip measures 10; right 0 (average normal 50 to 60). Atrophied muscles and ulnar and median nerves at wrist on both sides show reaction of degeneration. Laboratory findings: Negative. Diagnosis based on following points: Insidious course beginning between 25 and 40 years with trophic changes in hands and progressive muscular atrophy beginning in hands and arms, involving also the shoulder girdle. Marked scoliosis of the vertebral column present in a majority of such cases. Loss of response to electrical stimulation in affected parts. Marked sensory dissociations, the sense of touch and pressure being preserved as well as the sense of position and attitude, while the sense of pain to pin point and to heat and cold is diminished or absent.

35. AUTO- AND HOMŒOTRANSPLANTATION OF THE THYROID GLAND IN THE GUINEA PIG.—By DR. CORA HESSELBERG.

(Barnard Free Skin and Cancer Hospital, Pathological Department).

For a short period of time after the operation no difference is seen in the behavior of the thyroid after auto- and homœotransplantation. Very soon, however, a destruction of follicles begins to take place in the homœografts. This destruction is not caused by a direct primary disintegration or solution of follicles, but depends on the destructive activity of (1) the lymphocytes, (2) of the connective tissue of the host tissue. The former invade the follicles and destroy them directly, the latter grows around the tissue of the homœografts in larger quantity than into the autografts. In the former it soon becomes fibrous and hyaline, in the latter it remains cellular. The fibrous connective tissue surrounds and compresses and thus destroys the follicles. In some homœografts destruction by means of lymphocytes, in others through connective tissue preponderates. The rapidity with which the destruction takes place in different homœotransplants also varies. There develops in the center of the piece a much better blood vessel supply in the auto- than in the homœograft.

36. AN EXPERIMENTAL STUDY IN EXCLUSION (FUNCTIONAL) OF THE PYLORIC ANTRUM.—By DR. WILLARD BARTLETT

In forty-one experiments on dogs the author attempts to find a method of exclusion of the pyloric antrum which will be simpler and safer than Doyen's transverse section, yet producing the same result.

Two original methods have proved satisfactory on dogs and by them the writer has excluded the pyloric antrum of eight out of twenty-three human subjects. A brief review is given of the different methods proposed by the various operators. The author's material is studied as follows: After death the stomach, upper jejunum and the lower esophagus were removed in one mass, distended with water and hardened in formalin. Later these were emptied, filled with barium and radiograms made. Transverse sections were made across the stomach on both sides of the septum and sections made of this. Two equally efficient methods were the result of these experiments. The one used in Experiments 23 to 28 is the easier of the two but leaves mucous membrane between layers supposed to heal together and should not be used before further experiments have proved this a safe procedure. The other method used in Experiments 12 to 21 is the more difficult, encounters more blood vessels and takes longer to perform but can be unreservedly recommended. Those who write of "placing ulcer-bearing areas at rest" may be interested in the statement that in one experiment peristaltic waves traveled uninterrupted the whole length of a stomach just completely divided transversely. Conclusions: (1) The experiments demonstrated that any form of operation which removed a cuff of mucosa with submucosa and the approximation of denuded muscular coats results in the formation of a diaphragm, but the method is too dangerous to use. (2) The results of the experiments on the dogs and the operation on the eight human subjects indicate that these methods accomplish practically what the Doyen-von Eiselsberg procedure does, no observation being more remote than two hundred and ten days. One advantage of this incomplete exclusion method is the prevention of a prolapse of the major portion of the stomach since the two halves are not detached from each other. (3) The pyloric antrum, after exclusion by any technic, was found to be greatly diminished in size and no other abnormality could be found on comparison with the normal stomach control. (4) The author admits that the obstruction may have been of functional nature in the stomachs cut only half way across, shown at necropsy to possess an incomplete septum and tonic contraction of the excluded area. Accompanying the paper are illustrations of the different interesting stitches, instruments, etc., used in the procedures, radiograms of the stomach made in life and post-mortem, also illustrations of the cross sections of the septa obtained as the result of the fourteen experiments done by the two proposed satisfactory methods.

37. THE SCHICK REACTION.—By DR. ELLSWORTH E. MOODY

Schick has perfected a skin test in which he used an intradermal injection of diphtheria toxin for the purpose of determining the amount of antitoxin in the blood of the tested individual. The quantity of toxin used is exactly 1/50 the MLD for a 250-gram guinea pig. The reaction appears in twenty-four hours as a circumscribed inflammatory area, becomes most marked in forty-eight hours and heals by brown pigmentation and scaling. The interpretation of the test is exactly opposite that of the similarly performed von Pirquet, a positive test meaning that the individual has not enough natural antitoxin to prevent the development of clinical diphtheria, a negative reaction indicating that he has at least 0.031 units of antitoxin per c.c. of blood. This is believed to be quite enough to prevent the development of the disease. Park reports that of 300 children who reacted positively to the test in the scarlet fever pavilion of the Willard Parker Hospital, and all of whom received some form of immunization, forty-

eight developed clinical diphtheria while not one reacting negatively developed a clinical case, although several became carriers. The same facts have been noted in our series. The highest percentage of positively reacting individuals is between 1 and 6 years, the periods of lowest percentage of positive reactions and therefore of least susceptibility, are under 1 year and over 15 years. This bears out the clinical experience of the incidence of the disease. Of 150 children who were tested by both the Schick method and by intradermal tuberculin tests only twenty-four had similar reactions to the two tests; proving that their action is not merely one to all toxic substances. No immunity is conferred by these intradermal injections as subsequent positive tests are always obtained unless the person either develops an active immunity by having the disease or is passively immunized. By using the Schick test as an indicator we have proved that the intravenous injection of antitoxin has an immunizing power which acts on toxin injected six hours previous to the administration of the antitoxin, while the intramuscular has the same immunizing power on toxin injected two hours before, and the subcutaneous injection only effects the toxin injected at the time of and subsequent to the administration of the antitoxin. 1,000 units of antitoxin were used for these experiments, all children being over 6 years of age.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, January 6, with thirty-four members present.

Dr. J. J. Bansbach, retiring president, introduced and installed the newly elected president, Dr. J. F. Owens. Our new president mapped out for the year 1915 a very interesting, active and vigorous program, particularly dwelling on the fact that the various medical and surgical societies in our county should be amalgamated and consolidated into one society.

The following standing committees were appointed: Executive committee, Chas. Geiger, O. C. Gleaves, C. A. Good; public health and legislation committee, J. J. Bansbach, F. H. Ladd, A. E. Holley; program committee, O. C. Gebhart, A. L. Gray, Caryl Potter; library committee, P. I. Leonard, G. A. Lau, Charles Greenburg; medical service committee, Daniel Morton, 1915, E. S. Ballard, 1915-16, W. H. Minton, 1915-16-17; membership committee, C. R. Woodson, W. T. Elam, H. S. Forgraves; tuberculosis committee, W. L. Kenney, Leroy Beck, G. R. Stevenson.

Dr. H. S. Conrad was unanimously elected a member of the society.

On motion of Dr. Bansbach, seconded by Dr. H. Lee, the president appointed a special committee consisting of Drs. Bansbach, Elam and Bell to investigate the matter of new quarters, club room features and installing of the projectoscope; this committee to make a thorough investigation as to cost, etc., and to report at an early date.

Dr. W. L. Kenney presented a clinical case of barbers' itch.

Dr. H. Lee reported a clinical case of parasitic worms in the bladder.

MEETING OF JANUARY 20

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, January 20, with Dr. J. F. Owens in the chair. There were thirty members present.

The minutes of the meeting of January 8 were read and approved.

The president introduced the subject as to the propriety of osteopaths, referring to Drs. Grow and Mer-

vine, lecturing on first aid at Y. M. C. A. A discussion followed by Drs. Lee, Woodson and Otto Schmidt.

Dr. Woodson made a motion that a committee of five be appointed to call on the secretaries and directors of the Y. M. C. A. and Y. W. C. A. protesting against the management of these institutions handling the free lectures through unscientific bodies; seconded and carried. The following committee was appointed: C. R. Woodson, J. I. Byrne, Daniel Morton, W. J. McGill and O. G. Gleaves.

Dr. Caryl Potter opened a discussion on druggists substituting, and was followed by Drs. Byrne, Woodson, Gleaves, Reynolds and Senor.

Dr. Byrne moved that the Public Health and Legislation Committee investigate substitution by druggists and report to the Society; seconded by Dr. Geiger and carried.

The special committee appointed to investigate club rooms reported that the Schneider Building, Seventh and Felix Streets, could be had for \$50 per month.

Dr. C. R. Woodson delivered an address on "Lesions of the Central Nervous System," which was favorably received and discussed by P. I. Leonard, Jacob Geiger, J. J. Bansbach, S. D. Senor and Caryl Potter.

A. L. GRAY, M.D., Secretary pro tem.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held its regular monthly meeting in Liberty, December 28. This being the last meeting of the year the election of officers for 1915 resulted as follows: President, Dr. T. N. Bogart, Excelsior Springs; vice-president, Dr. G. R. Dagg, North Kansas City; secretary-treasurer, Dr. J. J. Gaines, Excelsior Springs; delegate to state meeting, Dr. J. H. Rothwell; alternate, Dr. R. E. Sevier, Liberty.

Dr. J. J. Gaines read a paper on "Therapeutics of Radium" and Dr. John F. Grace reported a case of screw worm in the nasal sinuses. Both were very interestingly discussed. Good interest was manifested and a resolution to meet four times a year was promptly turned down. The meetings will continue the last Monday in each month; the next in January at the Snapp Hotel, Excelsior Springs.

January Meeting

This meeting of the Clay County Medical Society was postponed from January 25 to February 1 and convened at the Snapp Hotel, Excelsior Springs, on that date. The inclement weather kept the out-of-town members away. Matters of general business were attended to and the program for next month was arranged as far as possible.

The next meeting will be held at Liberty, Monday evening, February 22. Dr. J. H. Rothwell and B. J. Maltby have been invited to read papers.

The members of the society are urged to attend the meetings. That is what the meetings are for. There is no excuse for "*forgetting the date*" and the fellow that forgets an important engagement so easily will find himself forgotten after awhile. The medical society is *worth while*, or it *isn't*, and it's going to be *very much up to us this year*. Come to the meetings.

Notice.—The program for each meeting of the Clay County Medical Society, together with the place of meeting, will appear each month in this column in THE JOURNAL. Members will please bear this in mind. Do not wait for program-letters, but go strictly by announcements in this column.

February meeting at Liberty, Monday, February 22, at 7:30 p. m. J. J. GAINES, M.D., Secretary.

COOPER COUNTY MEDICAL SOCIETY

The Cooper County Medical Society held its annual banquet and meeting at the Frederick Hotel, Jan. 5, 1915.

The president, Wm. L. Abney, presided with many of the members present. After the routine work a paper on rheumatism was read by Dr. Van Ravenswaay and discussed by several of the members.

Dr. E. J. Goodwin of St. Louis was present and was called on to address the society. The burden of Dr. Goodwin's talk was to emphasize the importance of organization. He reminded us that in all the battles between the forces of good and evil the medical profession had always taken position on the lines of the good. It had not only given freely to the physical but to the moral welfare and advancement of humanity in general, and for that reason each member of so honorable a profession owed it to himself to submerge private opinions and throw himself fully into the work of the profession in its organized effort. He made it plain that organized medicine in its effort to secure proper legislation was not aiming at personal or professional gain, but in order to maintain its age-long record of contributing to the success of human progress and happiness. In this way alone could the individual member of the profession prove himself worthy to be called doctor. Dr. Goodwin's talk was well received and the society thanked him cordially for answering to our call to visit us. We hope he will come again soon.

C. S. ROBERTS, M.D., Secretary.

DAVIESS COUNTY MEDICAL SOCIETY

The Daviess County Medical Society met in Gallatin at the office of Dr. C. E. Griffith, on Thursday, January 21, at 2:30 p. m.

The following officials were elected to serve during the year 1915: President, N. M. Wetzel; first vice-president, L. R. Doolin; second vice-president, F. V. Frazier; secretary-treasurer, M. A. Smith; reporter, C. W. Metz. W. L. Brosius was chosen delegate for two years, and R. V. Thompson, alternate.

The following committees were appointed: Program and scientific work, N. M. Wetzel (chairman), L. R. Doolin, F. V. Frazier and M. A. Smith; public health and legislation, W. L. Brosius (chairman), Frank Hedges and C. E. Griffith; board of censors, J. D. Dunham (chairman), A. G. Minnick and D. F. Hanna; tuberculosis, R. V. Thompson (chairman), C. W. Metz and J. W. Nigh.

Dr. Brosius presented the subject of "Hormones" in a very interesting and enthusiastic manner, which was followed with a live discussion by those present. Other matters of interest were discussed. The county society is more determined than ever to give the public efficient medical service.

The next meeting will be held at Altamont with Dr. Frazier, Tuesday, May 4.

C. W. METZ, M.D., Reporter.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met at Clinton, January 20, at 2 p. m., with fifteen members present. Dr. H. C. Shuttee, West Plains, president, and Dr. E. J. Goodwin, St. Louis, secretary of the Missouri State Medical Association, Dr. J. Wallis Smith, Springfield, and Dr. T. B. Todd, Pilot Grove, were visitors.

Dr. W. H. Gibbons, vice-president, called the meeting to order.

The minutes of the previous meeting were approved as read.

The following clinical cases were reported:

Dr. J. M. Miller told of a postpartum hemorrhage which he had controlled, but convulsions followed in one hour; gave a teaspoonful of Norwood's tincture of veratrum vir.; in two hours gave one-half teaspoonful; good recovery; spoke of it because of the large dose with no bad effect.

Dr. J. R. Colson described a case of infection of a boil in the nose involving the entire surface of head and neck as seen in erysipelas; gave 20-grain doses of quinine every four hours; man got well.

Dr. W. Cline said he thought smaller doses repeated oftener would have had the same effect; in early practice he gave large doses of the drug, but now had as good results from the lesser dose.

Dr. Todd reported a case of puerperal septicemia; pulse 130; temperature 105; used quinin and Norwood's tincture every three hours. Patient was doing fine until the fourth week when hypostatic pneumonia developed and she died.

Dr. Miller reported a case of puerperal septicemia, and having heard so much about the serums, used this treatment; the woman died.

Dr. S. A. Poague, in puerperal septicemia, gave echinacea with sodium benzoate.

Dr. E. Peeler reported a trying case; rheumatism, chorea, frontal abscess, with heart trouble; no swelling of the joints; lost control of bowels and speech; gave her digitalis and Fowler's solution; had tried the bromides.

Dr. Miller advised the use of Fowler's solution to saturation.

Dr. Wallis Smith read a paper on "Gall-Bladder Infections and Treatment," giving a clear description for his reasons and conclusions on the subject and operations. This paper will appear in THE JOURNAL of the Missouri State Medical Association.

Dr. Gibbons, thanking the doctor in the society's behalf for the paper, asked if when the gall-bladder is emptied and drained would not the stones form again.

Dr. Miller said he thought it best to remove the bladder and thus the cause at once.

Dr. McNees said he thought all cases called acute gastritis or dyspepsia, were caused by a disordered gall-bladder and all cases of chronic dyspepsia, if over 40 years of age, are gall-bladder infections and in typhoid fever and cholecystitis a great many cases are due to gall-stones. Many others have an affected appendix which an operation cures by removing the cause.

Dr. Haire disagreed that all dyspepsias were gall-stone infections. Many autopsies show gall-stones in the bladder with no colic or indigestion spoken of. Gall-stones in the bladder do not cause the trouble in the duct. If we used more urotropin less gall-stones would be found, but gall-stones should be operated on.

Dr. Stebbins asked why not take out the gall-stones by an operation and then establish good drainage. This is the only manner by which you can get the bladder back to a normal condition; only 20 per cent. of the cases have any jaundice.

Dr. Smith said in closing it is left to the surgeon to know when it is necessary to remove the bladder or if emptying and draining will cure the trouble. Of 1,600 cases operated on only two cases had a return of the trouble.

Dr. Shuttee spoke about the state organization and how necessary it was to have all the country doctors in it by joining their home society and working together. He had found that those doctors whom

he had met in the different county societies compared favorably with the city doctors. That the Missouri State Medical Association was in the rank with the best state associations and it was all due to the members of the county societies. There was less jealousy existing among the doctors and a better feeling caused by meetings. He said good fellowship was on the increase by bounds, all due to the meetings of the county societies.

Dr. E. J. Goodwin gave a good talk on the society work and what had been accomplished by the union of all societies. He said the monthly JOURNAL compared well with any published and was now almost self-supporting; a little more work on the part of the members would place it firmly on a self-supporting basis. He also gave a short synopsis of the legislation that was being sought.

Dr. Kline moved the following resolution be adopted:

WHEREAS, The optometry bill before the legislature is vague and does not prevent deception and fraud, that thorough knowledge of the anatomy of the eye, its conditions and diseases should be known by anyone who attempts to treat the eye in any manner, by fitting glasses or otherwise.

Resolved, That the Henry County Medical Society petition our senator and representative to oppose this bill and consult with our society on any measure of this kind affecting the health and well-being of our citizens. Seconded and by vote carried.

Dr. Douglass moved that Dr. J. H. Bronough of Calhoun, be transferred to the honor membership roll of the society; by vote so ordered.

Dr. W. R. Campbell was elected censor for three years.

Dr. N. I. Stebbins invited all present to visit and inspect his hospital that he had opened.

At 7:30 in the evening the members entertained their guests around the banquet table. Wit and wisdom intermingled pleasantly and profitably while the inner man was being supplied with large amounts of turkey with trimmings. The feast lasted until a late hour in the night and every member as well as all the guests not only enjoyed the occasion but departed with a new spirit of determination to make the Henry County Medical Society a potent factor in promoting the welfare of the profession and protecting the health of the people. Dr. Gibbon was toastmaster and made the gathering exceedingly jovial by his genial and contagious good humor.

F. M. DOUGLASS, M.D., Secretary.

HOLT COUNTY MEDICAL SOCIETY

The Holt County Medical Society met in Dr. J. M. Davis' office at Craig, Jan. 7, 1915. The president, Dr. Nauman, being absent, Dr. Bullock was elected president pro tem.

The following members answered to roll call: Drs. B. T. Quigley, J. F. Osborn, J. M. Davis, J. C. Ottman, F. E. Bullock, J. W. McClannahan, C. L. Evans, J. L. Hogan and W. S. Wood.

The minutes of the previous meeting were read and approved.

The annual election of officers was then held and resulted as follows: president, J. T. Thatcher; vice-president, Roy Miller; secretary, W. S. Wood; treasurer, C. L. Evans; board of censors, F. E. Bullock; delegate, O. W. Nauman; alternate, J. L. Hogan.

The treasurer was authorized to send five dollars to Dr. F. F. Simpson, Pittsburgh, as a contribution to aid Belgian physicians who had been robbed of their all in the present war.

Oregon was selected as the next meeting place, which will occur the first Thursday in April.

Dr. Wood presented a paper on "Obscure Manifestations of Syphilis in the Female" with a very interesting account of a case he had treated.

Dr. Bullock read a paper on "Appendicitis," giving a number of cases treated according to his idea. Both subjects were discussed by all the members present, each doctor citing cases that had come under his observation, to illustrate points presented.

Just before adjourning, the following New Year's resolution was unanimously adopted: Believing THE JOURNAL published by the Missouri State Medical Association to be the best published by any state medical society, we, the Holt County Medical Society, do hereby send our congratulation to Editor Goodwin for the success accomplished. That we appreciate his efforts, that we pledge our hearty support, and feel assured that he will keep THE JOURNAL up to the high standard it has achieved.

C. L. EVANS, M.D., Councilor.

JOHNSON COUNTY MEDICAL SOCIETY

The Johnson County Medical Society met in regular session at Warrensburg, January 12, with a good number present. Owing to rather adverse circumstances our December meeting was not well attended, therefore the business and literary parts of the program were extended unfinished to the January meeting.

Dr. J. W. Bolton read a paper on "Lodge Practice." The paper was well timed to meet the emergencies which have naturally arisen from the organization of the Moose lodge recently in the community.

The following officers were elected for the ensuing year: president, D. C. Adcock; vice-president, W. E. Johnson; secretary-treasurer, O. B. Hall; delegate to the state meeting, Henry Park.

O. B. HALL, M.D., Secretary.

LEWIS COUNTY MEDICAL SOCIETY

The Lewis County Medical Society met at the Hotel Quincy, Quincy, Ill., January 14. Officers present were president, Dr. Joseph R. Hamlin; vice-president, Dr. H. E. Dunlop; secretary, Dr. Ray Mercer, and Drs. John V. McKim, A. C. Crank, C. O. Shanks, C. N. Frame, J. C. Nunn, Paul F. Cole and T. F. McGlasson.

Our state secretary, Dr. E. J. Goodwin, was with us and gave us a fine talk on medical organization. I think all present were benefited by the talk and discussion that followed.

Dr. John Ford of Williamstown, who has been a member of the Society a number of years, was elected an honorary member for life.

Dr. J. T. Morgan, who recently moved to Canton from Springfield, was elected to membership on transfer from Greene County Medical Society.

The president appointed the following publicity committee: Ray Mercer, Canton; T. F. McGlasson, Lewistown; G. P. Knight, Monticello; Roy Wilson, La Belle; C. N. Frame, Ewing; N. O. Owens, LaGrange.

Dr. H. E. Dunlop moved that no insurance examination of \$1,000 or more, outside of fraternal, be made for less than \$5. A lively discussion followed but no action was taken.

Quite a number paid their dues at this meeting and I hope to hear from the rest before the March meeting.

The meeting adjourned at 5 p. m. to meet at the Hotel Quincy, March 3.

RAY MERCER, M.D., Secretary.

MARION COUNTY MEDICAL SOCIETY

The Marion County Medical Society met at the Mark Twain Hotel, Hannibal, January 21 to enjoy its annual banquet. Covers were laid for twenty-five and a delightful, eight-course luncheon was served. Those present were Drs. W. T. Coughlin, St. Louis; T. A. Roselle and Silas Sanford, Palmyra; J. J. Farrell, U. S. Smith, W. C. Guss, J. J. Bourn, J. C. Chilton, J. F. Cooper, C. T. Shepherd, A. B. Blue, A. J. Detweiler, J. N. Primm, R. M. Schmidt, E. T. Hornback, Thomas Chowning, E. E. Waldo, E. H. Bounds, I. E. Hill and J. S. Howell, Hannibal.

Dr. W. T. Coughlin of St. Louis, who was the guest of the society, delivered an address entitled "For the Common Good of the Profession." The doctor gave reasons why physicians do not hold that respect and confidence of the people which they deserve. He spoke of the evil of conflicting expert testimony. He said charges should be high enough to command respect. That physicians should not criticise one another but should have confidence in and respect for each other and be ever ready to fight each other's battles. He thought the greatest evil was too many doctors not sufficiently educated or adapted to the work they have chosen. He thought societies as a unit should give to the press their views on public questions relating to health. The paper was greatly appreciated and different phases of it were discussed by Drs. Howell, Sanford, Primm, Hornback, Guss, Schmidt, Bounds, Cooper and Shepherd.

Dr. I. E. Hill was a success as toastmaster.

J. S. HOWELL, M.D., Reporter.

PEMISCOT COUNTY MEDICAL SOCIETY

The Pemiscot County Medical Society met in the City Hall in Caruthersville on January 5. The meeting was called to order by the president, Dr. Wm. A. Swearingen.

The following members were present: Wm. A. Swearingen, Geo. W. Phipps, G. A. Grainger, M. H. Hudgings, T. J. Troutman, J. W. Johnson, Chas. E. Martin, B. D. Crowe, J. B. Luten and M. B. Hendrix.

The minutes of the previous meeting were read and approved.

Dr. T. J. Troutman reported a case of hiccough which was discussed by the Society.

Dr. J. W. Johnson reported his being at the meeting of the State Medical Association at Joplin, and the Society voted to pay his expenses.

The following officers were elected for the ensuing year: president, T. J. Troutman; vice-president, Chas. E. Martin; secretary, J. W. Johnson; treasurer, Geo. W. Phipps; delegate, M. B. Hendrix; censor, J. B. Luten.

On motion, the Society adjourned to meet at Hayti the second Tuesday in April, 1915.

J. W. JOHNSON, M.D., Secretary.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY

The Ste. Genevieve County Medical Society held its annual meeting Dec. 9, 1914, Vice-President Hinch in the chair.

The minutes of the last meeting were approved as read.

The financial report for the year 1914 was read by the treasurer and approved.

The Society then proceeded with the election of officers which resulted as follows: president, Dr. C. Moore; vice-president, Dr. F. E. Hinch; secretary-treasurer, Dr. R. W. Lanning; delegate, Dr. F. E. Hinch; alternate, Dr. G. M. Rutledge; board of censors, Drs. Wilkins, Rutledge and Lanning.

The president appointed as committee on public health and legislation, Drs. Wilkins, Hinch and Lanning. As committeeman on health and public instruction, Dr. Rutledge was appointed.

No further business appearing, the Society adjourned until the second Wednesday in January, 1915.

R. W. LANNING, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

CANTHARIDIN.—The anhydride of cantharidic acid preparations of cantharidin are used in place of corresponding preparations of cantharides and have the advantage of being cleanly, and more uniform in strength. A 0.1 per cent. solution of cantharidin in a fixed oil raises blisters when kept in contact with the skin (*Jour. A. M. A.*, Jan. 2, 1915, p. 53).

BENZENE, MEDICINAL.—A liquid consisting almost entirely of benzene, C_6H_6 . Medicinal benzene has been used in the treatment of leukemia. In many cases the improvement is such as to suggest an apparent cure. A large number, if not all, cases relapse or succumb to the toxic action of the benzene. The drug is in the experimental stage and should be used with caution (*Jour. A. M. A.*, Jan. 2, 1915, p. 54).

BENZENE, MERCK, H. P., CRYSTALLIZABLE.—A brand of medicinal benzene. Merck & Co., New York (*Jour. A. M. A.*, Jan. 2, 1915, p. 54).

LEUCOCYTE EXTRACT.—An extract of leucocytes obtained from exudates produced in the pleural cavity of rabbits or other animals. It is said to be of value as an aid to specific serums or antitoxins and vaccines. It is claimed to be of use itself where the nature of an infection is not known. Its use is in the experimental state (*Jour. A. M. A.*, Jan. 2, 1915, p. 54).

LEUCOCYTE EXTRACT, SQUIBB.—A leucocyte extract prepared according to the method of Hiss. It is sold in syringes containing 10 c.c. E. R. Squibb & Sons, New York City (*Jour. A. M. A.*, Jan. 2, 1915, p. 54).

SILVER CITRATE, MERCK.—A brand of silver citrate admitted to New and Nonofficial Remedies. Merck & Co., New York (*Jour. A. M. A.*, Jan. 2, 1915, p. 54).

SILVER LACTATE, MERCK.—A brand of silver lactate admitted to New and Nonofficial Remedies. Merck & Co., New York (*Jour. A. M. A.*, Jan. 2, 1915, p. 54).

DIGITOXIN, MERCK.—A brand of digitoxin admitted to New and Nonofficial Remedies. Merck & Co., New York (*Jour. A. M. A.*, Jan. 2, 1915, p. 54).

LUETIN.—An extract of the killed cultures of several strains of the *Treponema pallidum*, the causative agent of syphilis. It is employed for the diagnosis of syphilis. It is of use in the examination of tertiary cases, but rarely gives a positive reaction in primary cases or in untreated secondary cases. Luetin is supplied as:

LUETIN, MULFORD.—Packages sufficient for a single test, for five tests and for fifty tests. The H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, Jan. 23, 1915, p. 343).

GLYCOTAURO CAPSULES (half size).—Each capsule contains Glycotauro (see N. N. R.) 0.15 gm. Hynson, Westcott & Co., Baltimore, Md. (*Jour. A. M. A.*, Jan. 23, 1915, p. 343).

PROPAGANDA FOR REFORM

STOMACH BITTERS.—Experiments conducted by A. J. Carlson and his co-workers at the University of Chicago show that the widespread use of bitter drugs as a means of stimulating the appetite or aiding digestion is a therapeutic fallacy. He finds that such drugs as gentian, quassia, calumba, hops, condurango and the elixir of quinin, strychnin and iron do not increase hunger contractions of the stomach and the related phenomenon nor induce increased secretion of hydrochloric acid or pepsin (*Jour. A. M. A.*, Jan. 2, 1915, p. 58).

BANNERMAN'S INTRAVENOUS SOLUTION.—This solution was refused recognition by the Council on Pharmacy and Chemistry because vague, indefinite and misleading statements were made regarding its composition, because it was recommended for anemia, tuberculosis and syphilis under grossly exaggerated and unwarranted claims and because the intravenous injection of complex and indefinite mixtures is unscientific and dangerous. The proprietors having submitted to the Council a revised statement of composition and a revised advertising circular, Bannerman's Intravenous Solution was again refused recognition, partly because the statement of composition was unsatisfactory, but mainly because of the unscientific character of the solution and the unwarranted therapeutic claims which are made for it (*Jour. A. M. A.*, Jan. 2, 1915, p. 70).

PRUNOIDS.—Prunoids (Sultan Drug Co.) are tablets said to be "Made of Phenolphthalein (one and one-half grains in each), Cascara Sagrada, Demetized Ipecac and Prunes." The A. M. A. Chemical Laboratory reported that Prunoids appeared to be essentially a phenolphthalein tablet. The Council on Pharmacy and Chemistry held Prunoids in conflict with its rules because the statement of composition was incomplete and therefore meaningless, because unwarranted therapeutic claims are made for them, because the name "Prunoids" does not indicate the chief constituent but gives the false impression that they depend on prunes for their effect and because it is irrational to prescribe a well-known drug under a misleading name (*Jour. A. M. A.*, Jan. 2, 1915, p. 71).

SEDOBROL "ROCHE."—Sedobrol (Hoffmann LaRoche Chemical Works) is stated to contain "17 grains Sodium Bromid, 1.5 grain common salt, fat and seasoning" and to furnish "on solution in hot water, a very palatable bouillon." The advertising "literature" advocates its use for stage fright and arteriosclerosis and recommends the use of a large dose of bromid in the guise of a cup of bouillon in many conditions. It is even recommended to use Sedobrol in place of salt, simply to flavor food. The Council on Pharmacy and Chemistry held that Sedobrol, Roche was unscientific, that unwarranted therapeutic claims were made for it and that there was evident intention to mislead both patient and physician into useless and pernicious medication (*Jour. A. M. A.*, Jan. 2, 1915, p. 71).

ECHTISIA, ECHTHOL AND ECHITONE.—Echtisia (Wm. S. Merrell Chemical Co.), Echthol (Battle & Co.) and Echitone (Strong, Cobb & Co.) are proprietaries, each of which has echinacea as its chief constituent. In 1909 the Council on Pharmacy and Chemistry reported that the extreme and extravagant claims which are made for this drug are not supported by evidence. Echinacea is not often prescribed under its own name, but is commonly employed in the form of proprietaries, which in addition to echinacea contain other little used or obsolete drugs. To call attention to the unwarranted and often absurd claims which are made for this class of mixtures the Council reports on three of these: Echtisia which is said to be made from echinacea, wild indigo, arbor vitae and poke root, Echthol, which is said to be made from echinacea and arbor vitae and Echitone which is stated to represent echinacea, pansy and blue flag. In each case it was found that most or all the extravagant and impossible claims which have been made for echinacea were made for the proprietaries and that in addition almost equally extravagant claims were made for the additional drugs contained in them (*Jour. A. M. A.*, Jan. 2, 1915, p. 71).

THEOBROMINE VERSUS CAFFEINE.—Lester Taylor finds that caffeine gives a moderate relief from the cardiac symptoms in myocardial insufficiency, but also causes the constant appearance of distressing nervous and gastric symptoms. He further finds that the clinical diuretic action of caffeine may be better performed by large doses of theobromin sodium salicylate, N. N. R. without the unpleasant side-effects (*Arch. Int. Med.*, Dec. 1914, p. 769).

NEUROSINE, DIOVIBURNIA, GERMILETUM AND PALPEBRINE.—The Council on Pharmacy and Chemistry reports on Neurosine, Dioviburnia, Germiletum and Palpebrine, shot-gun proprietaries typical of the pharmacy of past decades, put out by the Dios Chemical Co., St. Louis.

Neurosine is said to contain, in each fluidounce "Bromid of Potassium, C. P. 40 grains, Bromid of Sodium, C. P. 40 grains, Bromid of Ammonium, C. P. 40 grains, Bromid of Zinc 1 grain, Extract Lupulin 32 grains, Cascara Sagrada, fl. ex. 40 minims, Extract Henbane .075 grain, Extract Belladonna .075 grain, Extract Cannabis Indica .60 grain, Oil Bitter Almonds .060 grain, Aromatic Elixirs." No physician would think of prescribing all of the drugs in Neurosine for any one condition. The Dios Company urges the use of this nostrum for a host of conditions and without due consideration of its potent constituents. Not content with recommending the promiscuous use of this already too complex mixture, the Dios Co. advises physicians to combine it with other drugs.

Germiletum is a member of a large class of alkaline antiseptics with excessively complex formulas. The formulas on different styles of Germiletum labels and circulars vary so much that one cannot tell what composition the exploiters of it intend to claim for their nostrum. Germiletum is recommended in many conditions and in a way to lead the physician to place false confidence in it.

According to the label every fluidounce of Dioviburnia contains "¾ dr. each of the fl. extracts, Viburnum Prunifolium, Viburnum Opulus, Dioscorea Villosa, Aletris Farinosa, Helonias Dioica, Mitchellae (sic) Repens, Caulophyllum Thalictrifolium, Scutellaria Laterifolia." The label also declares that Dioviburnia

contains 18 per cent. of alcohol. As the named fluid-extracts in the quantities given require a much larger content of alcohol in Dioviburnia, either the alcohol statement or the formula is incorrect. This complex preparation of drugs generally considered worthless is recommended by extravagant and unwarranted claims for a large number of widely differing female disorders. In a way the Dios Co. seems to recognize the inefficiency of Dioviburnia, for it frequently suggests that it be used in combination with drugs of known value.

Palpebrine is claimed to be a solution of stated amount of morphine sulphate, zinc sulphate, mercuric chloride, boric acid and salicylic acid. It is termed "A Reliable External Ocular Antiseptic." It is asserted that "With the assistance of Palpebrine the general practitioner can successfully treat all cases of external eye disease ordinarily encountered in his practice." Even more dangerous is the recommendation of Palpebrine for the prevention of ophthalmia in the newborn (*Jour. A. M. A.*, Jan. 9, 1915, p. 165).

HAYDEN'S VIBURNUM COMPOUND.—This preparation, according to the advertising matter, depends for its action on Viburnum opulus, Dioscorea villosa and aromatics. The label admits the presence of 50 per cent. alcohol. Its use is advised in the treatment of female disorders, cramps, etc. A report of the Council on Pharmacy and Chemistry states that, even if it contains the ingredients claimed (it has been reported that Viburnum opulus has not been on the market for years), the therapeutic action of the preparation depends almost entirely on the alcohol which it contains. The Council fears that the use of this preparation may initiate the alcohol habit in girls and women and publishes its report as a protest against its use (*Jour. A. M. A.*, Jan. 23, 1915, p. 359).

PEEBLES EPILEPSY CURE.—The Dr. Peebles Institute of Health, Ltd., Battle Creek, Mich., advertises an "epilepsy cure." The "treatment" was examined in the A. M. A. Chemical Laboratory. It consisted of two bottles, "No. 1" and "No. 2." "No. 1" was a liquid containing extractive matter, had an odor resembling celery and valerian and contained 11.40 per cent. absolute alcohol. "No. 2" was a liquid, having a valerian-like odor and containing as essential constituents ammonium bromide and potassium bromide, equivalent to 16.8 gr. potassium bromide per fluidram, the recommended dose. Thus, the treatment consists essentially of bromides and is, in no sense, a cure and not free from danger (*Jour. A. M. A.*, Jan. 30, 1915, p. 455).

RADIO-REM.—The Radio-Rem outfit is advertised by Schieffelin & Co. It is said to produce water charged with radium emanation by inserting rods stated to be coated with radium sulphate in water. Not only is the internal use of radium emanation without proved value, but the amount of emanation said to be produced by the apparatus is far below the amounts generally used by those who believe in its efficacy. It is claimed that this outfit supplies a substitute for natural mineral water; but there is no proof that the value of mineral waters depend on contained radium emanation (*Jour. A. M. A.*, Jan. 30, 1915, p. 456).

G. G. PHENOLEUM DISINFECTANT.—This is a disinfecting solution sold by the G. G. Phenoleum Co., New York. It was found ineligible for New and

Nonofficial Remedies by the Council on Pharmacy and Chemistry because unwarranted claims were made for it and because the disinfectant power was not stated on the label, as required by the Council (*Jour. A. M. A.*, Jan. 30, 1915, p. 456).

PHYTIN AND FORTOSSAN.—Phytin, sold by A. Klipstein & Co., New York, is an organic phosphorus compound, the acid calcium-magnesium salt of phytinic acid. The Council on Pharmacy and Chemistry rejected Phytin because unwarranted and exaggerated therapeutic claims were made for this product, based on the entirely undemonstrated assumption that phosphorus is assimilated only from organic combination, that a long list of diseases are due to deranged phosphorus metabolism and that such diseases are benefited or cured by Phytin. The Council also refused recognition to Fortossan, a preparation of Phytin and sugar of milk (*Jour. A. M. A.*, Jan. 30, 1915, p. 456).

VENARSEN.—Venarsen, marketed by the Intravenous Products Co. for the treatment of syphilis, pellagra, tuberculosis, anemia, etc., is a secret preparation. One circular suggests that Venarsen is a sort of an improved salvarsan, but in reality it gives no clew whatever as to the real character of the preparation. Another circular suggests that Venarsen is a shot-gun combination containing arsenic, mercury and other anti-syphilitic drugs. It is not only the right but the duty of physicians to know the essential composition of what they prescribe; a physician who uses a remedy the composition of which is kept secret, even in part, is not doing his duty to his profession nor to his patient. It is almost criminal for physicians to use a preparation of secret composition and to administer it by intravenous injection—a method which in itself is altogether likely to give rise to accidents (*Mo. State Med. Jour.*, Jan., 1915).

BOOK REVIEWS

WORRY AND NERVOUSNESS—OR THE SCIENCE OF SELF-MASTERY, by William S. Sadler, M. D. A. C. McClurg & Co., Chicago.

It is a little difficult to decide "why this book." What Dr. Sadler has included in the five hundred and odd pages of print has been said many times before, and usually said better. One gathers a distinct sense of discouragement from the picture of the sympathetic nervous system opposite the title page. It is an unpleasant reminder of certain advertisements which the Council on Pharmacy and Chemistry of the A. M. A. has dealt with. While we do not condemn the book as utter trash we feel that the medical fraternity has already heard too much "talk" and that anyone who must, for reasons of mental catharsis, unburden himself in print should in mercy concentrate.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume III, Number 5 (October). Octavo of 190 pages. Illustrated. Philadelphia and London: W. B. Saunders Company, 1914. Published bimonthly. Price per year: Paper, \$8; cloth, \$12.

This number embraces the following subjects: Murphy's Clinical Talks on Surgical Diagnosis; Traumatic Epilepsy; Epithelioma of the Glans Penis; Car-

cinoma of the Corona Penis with Metastasis in the Inguinal Glands; Fecal Fistula; Old Inversion Fracture of the Ankle; Inversion Fracture of the Ankle Treated as a Pott's Fracture by an Adduction Dressing; Old Inversion Fracture of the Left Ankle Treated as a Pott's Fracture; Old Pott's Fracture; Removal of Nail from the Right Tibia and Os Calcis; Recent Report from an Old Case of Knee Arthroplasty; Arthroplasty of the Elbow for Complete Bony Ankylosis Between the Humerus and Ulna in a Position of Complete Extension; Hypertrophy of the Middle Lobe of the Prostate; Imperforate Anus; Use of Radium and the X-Rays in the Treatment of Cancer.

LOCAL AND REGIONAL ANESTHESIA, including Analgesia. By Carroll W. Allen, M.D., of Tulane University, New Orleans, with an introduction by Rudolph Matas, M.D., of Tulane University, New Orleans. Octavo of 625 pages with 255 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$6.00 net; half Morocco, \$7.50 net.

It is a source of satisfaction to observe that interest in local anesthesia is being aroused in this country. The pioneer work of Dr. A. E. Hertzler of Kansas City in local anesthesia stimulated great interest in this field and Allen's book will undoubtedly draw new attention to the subject. The first section of Allen's book is devoted to the history, description of different local anesthetics, toxicology, principles of technic, anoci-association, indications and contra-indications. These chapters are complete but in some cases the details are rather tedious.

The latter part of the book is devoted to local anesthesia methods as applied to different regions. The details of technic are not sufficiently clear in all cases for the novice to follow. The valuable method of Hackenbruch is not given enough prominence nor is the method well described. Intravenous local anesthesia (Bier) is only mentioned in a general way, and the technic is not clearly described. Apparently the author is not entirely familiar with this valuable method. For instance, on page 207 he states "Anesthesia is said to be produced in from ten to fifteen minutes in the area between the bandages (direct anesthesia)." In fact this direct anesthesia comes on almost at once after the injection. The later improvements and finer points in the technic of this method are not given.

On the whole the work is good and should stimulate interest in this important subject.

SURGERY OF THE VASCULAR SYSTEM. Bertram M. Bernheim, A.B., M.D., Instructor in Surgery, The Johns Hopkins University. J. B. Lippincott Company, Philadelphia.

"The thing that hath been, it is that which shall be; and that which is done is that which shall be done; and there is no new thing under the sun."—Ecl. i:9.

Thus spoke the wisest of the Hebrew Kings and his dictum, finding confirmation daily, is again exemplified in this, one of the latest and most fascinating of the chapters of surgery; for we note that transfusion was employed so far distant as 1492 in the futile effort to preserve the life of Innocent VIII. But transfusion, together with other technical exploits, theoretic or demonstrated, held an academic rather than a practical value to practical surgery until the

present exponents of vascular surgery placed it on a substantial foundation.

This monograph of one hundred pages includes a discussion of technical details, various types of anastomosis, the problem of reversal of the circulation, suggestions regarding the treatment of varicose veins, a brief note on cardiac surgery and a discussion of the surgical treatment of aneurysm.

Needless to say, in so limited a compass it would be unreasonable to anticipate an exhaustive study of any one of the foregoing much less the aggregate. For the work of other surgeons one must needs consult the literature to which compact and helpful reference is made at the close of each chapter. Without a fair knowledge of the work that has been done by others the casual reader (in spite of an evident effort to apportion credit where credit is due) will be led to assign an undue measure of deference to the work of Bernheim, so significantly is this a record of his views and his accomplishments. In subsequent editions the first personal pronoun singular might be employed somewhat less frequently with marked improvement in good taste.

Bernheim's contributions to this field consist of ball-tipped forceps, a three-pronged modification of the cannula of Crile, a two-piece transfusion tube and a method of lateral anastomosis (the latter in collaboration with Stone). His discussion of methods and his rehearsal of details is clear; the eye is refreshed by the excellent drawings of Didusch, who exhibits over fifty in orientation of the text. The general style is possibly equal to the average American surgical production. Probably the most interesting item recorded is the case in which Bernheim successfully reversed the circulation in the four limbs. His contention that blood actually was coursing *distally through the veins* was corroborated by unprejudiced and competent observers.

That Bernheim offers nothing radically new and advocates nothing essentially radical in no sense militates against the value of his contribution. What is needed in the present stage of vascular surgery is, like the volume before us, a propaganda concise, simple and conservative for the thoughtful consideration of the thoughtful-minded practitioner. It is folly to demand the impossible of vascular surgery—equally fatuous is the man who ignores the beneficent results that it offers; and the yet greater possibilities that its conservative workers believe are to be made practicable in the not-far-distant future.

Bernheim deserves commendation for the moderation of his recommendations, his definition of the limitations of vascular surgery and his refusal to encourage everyone to venture into this comparatively virgin territory. He seems to possess a somewhat undue dread of the adventitia—based largely on its crawling qualities during the process of adjusting and suturing the edges of vessels. To overcome this tendency he trims it off. The suggestion is offered that if instead of sacrificing the adventitia it be carefully peeled back it will be found, after union has been completed, to serve as an excellent cuff-splint over the line of coaptation.

The typography is all that need be desired, the paper and reproductions are good, the binding dignified and substantial, the index is adequate. Author and publisher alike may well feel gratified with the net result of their joint labors.

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ORIGINAL ARTICLES

HODGKIN'S DISEASE; WITH REPORT OF A CASE WHICH YIELDED POSITIVE CULTURES*

GEORGE IVES, M.D.
ST. LOUIS

The most prevalent conception of Hodgkin's disease is that obtained from clinical observations. Upon this basis the disease has been defined as "an affection characterized by painless progressive enlargement usually of several groups of lymph-nodes and accompanied by a progressive anemia. Often the spleen, and sometimes the liver, is enlarged."¹

That this definition is wholly unsatisfactory, and that it must eventually be discarded, is evident from the fact that identical and similar clinical pictures may be produced by various infections and neoplasms, including tuberculosis, syphilis, metastatic carcinoma, sarcoma, etc. It is a surprising and noteworthy fact that most of the specimens described in Hodgkin's original paper were from cases of tuberculosis, syphilis and leukemia.

Cases presenting the symptom complex of the above definition have been studied for many years. It is due to the fact that the histological pictures obtained from numerous cases have shown a wide range of variability, and to the fact that various authors have presented different interpretations of their observations, that the following names have been proposed as synonymous to Hodgkin's disease: progressive multiple lymph-gland hypertrophy, lymph adenoma, lymphosarcoma, pseudoleukemia, desmoid carcinoma, scirrhus lymphoblastoma, lymphogranulomatosis, etc.

Among the cases which are clinically Hodgkin's disease there is a group which histologically shows inflammatory changes. German

authors designate this condition lymphogranulomatosis. The chief histological features presented by the lymph-glands in these cases are a proliferation of fibroblasts, leading to the condition of fibrosis, an infiltration of polymorphonuclear leukocytes, chiefly of the eosinophil type, and the presence of giant cells of disputed origin. Among the cases studied by Warthin² about one-third of those diagnosed clinically as Hodgkin's disease presented this histological picture.

The period between 1902, the time of the appearance of the papers by Reed³ of this country and Andrewes⁴ of England, and the recent bacteriological discoveries in various lymphatic conditions there has been an almost unanimous agreement among pathologists that the name Hodgkin's disease should be applied only to those cases presenting the histopathological changes briefly described above.

Although during this period there was practically a universal agreement as to the pathological definition of Hodgkin's disease, there was a wide diversity of opinion as to the nature of the disease. A few have maintained up to the present time the truth of the theory of Sternberg,⁵ that Hodgkin's disease is an atypical manifestation of tuberculosis. Mallory,⁶ with a marked degree of positiveness, places Hodgkin's disease among the lymphoblastomas. According to his interpretation, the giant cells are of lymphoblastic origin, and he states that they are the malignant tumor cells. The fibrosis he considers as analogous to that observed in certain types of carcinoma.

The recent reports of bacteriological findings in various conditions of lymph-glands, histologically and clinically dissimilar, have been confusing. This is especially true so far as the definition of Hodgkin's disease is concerned. From numerous cases of Hodgkin's disease,

2. Osler's Modern Medicine, 1909, iv, 829.

3. Johns Hopkins Hospital Reports, 1902, x, 133.

4. Tr. Path. Soc. London, 1902, liii, 305.

5. Centralbl. f. d. Grenzgeb. d. Med. u. Chir., 1899, ii, 641, 711, 770, 813, 847.

6. Pathologic Histology, Philadelphia, 1914.

* From the Laboratory of the St. John's Hospital.

1. Longscope: Osler's Modern Medicine, 1909, vi, 475.

which correspond to the generally accepted pathological definition of the disease, Negri and Miermet,⁷ Bunting and Yates,⁸ Billings and Rosenow,⁹ and Verploegh¹⁰ have obtained cultures of a diphtheroid bacillus and a coccoid organism. Similar organisms have been demonstrated in sections or obtained by the anti-formin digestion method.^{11, 12}

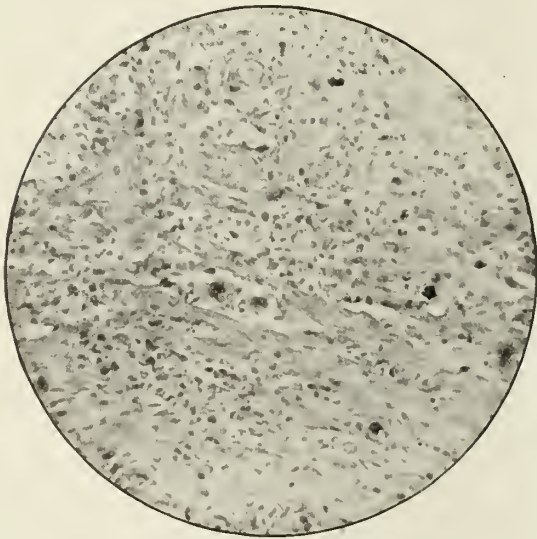


Fig. 1.—Photomicrograph of section from an affected lymph gland from author's case, showing giant cells, leukocytes, and fibrous connective tissue.

The isolation of similar or identical organisms from cases of lymphosarcoma,^{13, 14, 15} from a greenish malignant lymphoma,¹⁶ from the spleen in Banti's disease,¹⁷ and from a case of lymphatic leukemia¹⁸ suggests the possibility that all these conditions are the same etiologically, that they are the same qualitatively and that they differ only quantitatively. Further support to this view is furnished by Bunting, who observed the same blood picture in some of the latter conditions as he had previously described as typical of Hodgkin's disease.

In view of these recent reports on the bacteriology of various conditions of lymph-glands histologically and clinically dissimilar, Yates¹⁹ has proposed temporarily the following definition of Hodgkin's disease: It is "an infectious,

non-contagious affection due to the *B. Hodgkini*. It is characterized by a somewhat variable, though definite, reaction in the lymphatic and perilymphatic structures, specific changes in the blood picture, and by the manifestation of little or no tendency to spontaneous recovery."

For the history of the following case and for the privilege of studying and reporting it, I am indebted to Dr. J. H. Amerland and Dr. W. C. G. Kirchner.

Mr. F. W., aged 65 years, a retired cabinet maker, presented himself to Dr. Amerland on Nov. 15, 1914, complaining of swellings in the right side of the neck and in the right axilla. The personal history is negative excepting that the patient's teeth were in a bad condition and had been in such a condition for many years.

Physical examination revealed hard, movable, and painless masses of glands. In the anterior right axillary region was a gland which showed apparent fluctuation and the skin over it was reddened. The tentative diagnosis by Dr. Amerland was metastatic carcinoma.

Dr. Kirchner saw the patient on November 17. His diagnosis was lymphadenitis. On November 24 Dr. Kirchner removed the enlarged glands of the neck and axilla. Dr. R. L. Thompson and myself examined the tissue removed and we agreed on the diagnosis of Hodgkin's disease of the Reed type, or the lymphogranulomatosis of German authors.

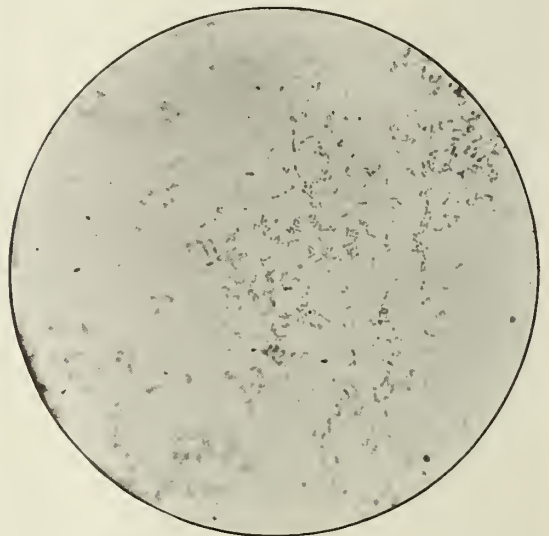


Fig. 2.—Photomicrograph showing diphtheroid and coccoid organisms; slide stained with Löffler's methylene blue and made from a fourteen-day culture of Culture No. 2 one year after isolating the organism.

The patient left the hospital two weeks after the operation and soon thereafter it was noted that the glands in the left side of the neck, in the right axilla, and in the inguinal region were enlarging.

At this time the Wassermann test was negative and the leukocyte count was 9,000. A differential leukocyte count, which would have been instructive, was not made.

On Jan. 8, 1914, Dr. Kirchner removed glands from the right inguinal region. Portions of this tissue

7. *Centralbl. f. Bakteriöl.*, 1913, lxxviii, 292.

8. *Jour. Am. Med. Assn.*, 1913, lxi, 1803.

9. *Ibid.*, 1913, lxi, 2122.

10. *München. med. Wehnschr.*, 1914, lxi, 1158.

11. Fraenkel and Much: *Ztschr. f. Hyg. u. Infektionskrankh.*, lxxvii, 159.

12. Kununoki: *Virchow's Arch. f. path. Anat.*, 1914, cciv.

13. Billings and Rosenow: *Jour. Am. Med. Assn.*, 1913, lxi, 2122.

14. Yates: *Bull. Johns Hopkins Hosp.*, 1914, xxv, 180.

15. Pease: *Post-Graduate*, 1914, xxix, 500.

16. Bunting: *Bull. Johns Hopkins Hosp.*, 1914, 173.

17. Yates, Bunting and Krinstjanson: *Jour. Am. Med. Assn.*, 1914, lxi, 2225.

18. Steele: *Boston Med. and Surg. Jour.*, 1914, clxx, 123.

19. *Bull. Johns Hopkins Hosp.*, 1914, xxv, 180.

were placed in numerous tubes of serum-glucose-agar and Löffler's serum. After several days' incubation under aerobic conditions at 37 C. (98.6 F.) one or more small whitish colonies were noted in all the tubes. Because of the large number of colonies no attempt was made to study all of them.

For a period of over two months the patient was treated with an autogenous vaccine made by mixing cultures of the organisms obtained. The intervals between the injections were usually six days. The dosage varied from 100 million to 1,000 million. The reactions following the injections were very slight. Fowler's solution was also administered.

The patient's anemia became more marked, and the affected glands progressively enlarged. Certain individual glands, however, became smaller. I am unable to state that the vaccine was of any benefit to the patient, who died on May 6, 1914. The duration of the disease was one year and two months.

The observations made upon my cultures are similar to those of others who have been successful in obtaining cultures from the affected lymph-glands in Hodgkin's disease. Of my

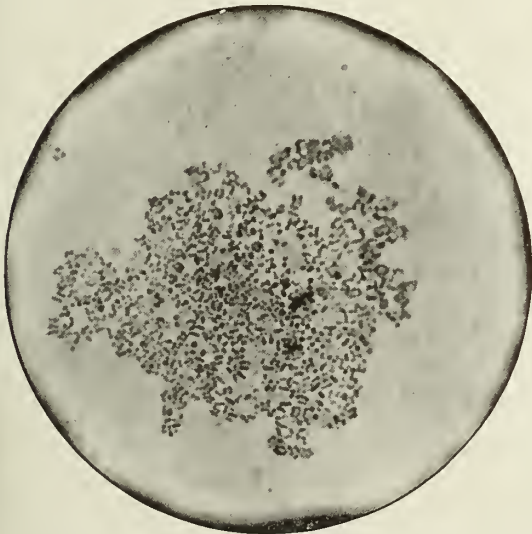


Fig. 3.—Photomicrograph showing coccoid organisms, stained with methylene blue; from a fourteen-day culture of Culture No. 1 one year after isolating the organism.

original ten cultures, nine of them were coccoid organisms, and the other (Culture No. 2) was a large bacillus having characteristics in common with the diphtheria bacillus.

Of the five cultures which I now have, four belong to the so-called coccoid class and the other is my diphtheroid bacillus.

All my cultures on Löffler's serum give moderately abundant, glistening, whitish growths. Upon this medium the different cultures show slight variations in the abundance of the growth. Streak cultures spread slightly, and the surface and edge of the growth are generally smooth. None of my cultures grow as luxuriantly as the culture which I received from Dr. Bunting.

The cultures have for a year been on Löffler's serum. Recently transfers were made

to plain-agar, upon which they show some variations. With Cultures Nos. 1, 2 and 10 a scant growth was obtained; with Culture No. 4 the growth was barely visible, and with Culture No. 9 the growth was fairly abundant.

Of all my cultures, No. 2 (Fig. 1) has been the most interesting. When first studied, the individual organisms were fairly uniform in size. They were larger than diphtheria bacilli and all, so far as noted, were of a distinct granular type. Club-shaped organisms were observed in the culture when first studied, but at the present time they occur in greater abundance. Barred types, which were not observed at first, are now present in this culture.

During the year the culture has been transferred numerous times on Löffler's serum, and in this time other apparent morphological changes have been observed. At present both coccoid and diphtheroid organisms are to be observed. My impression is that the average size of the organism is less than it was a year ago. It is not uncommon, however, to find organisms approximately 40 microns in length.

Cultures Nos. 1, 4 and 10, which were coccoid organisms on blood serum, are distinctly diphtheroid on plain-agar. Upon the latter medium they are practically identical to Culture No. 2, both in cultural and morphological characteristics. The importance of this observation is apparent. It furnishes evidence that we are dealing with only one organism, that the cultures which consist of coccoid organisms may be transformed into cultures of diphtheroid bacilli.

One culture (No. 9) stands out distinctly from the others. It furnishes a fairly abundant growth upon plain-agar. In making cover-slip preparations the organisms of this culture do not emulsify so readily as the other organisms, but they adhere in large masses, visible macroscopically. No distinctly diphtheroid organisms were found in this culture. It is not impossible that this is a contaminating organism, but I think it more probable that this too will be converted into a diphtheroid bacillus after suitable manipulations.

All the cultures studied show Gram-positive organisms. As a rule, they stain readily, taking a deep stain with Löffler's methylene blue; but it is not uncommon to find both deeply and faintly stained organisms. This latter observation was very definite and pronounced with Culture No. 9.

The above descriptions of the organisms which I have studied are incomplete. Nevertheless, my studies go sufficiently far to indicate that I have obtained the *Bacillus Hodgkini*.

304 Wall Building.

APPENDICITIS IN CHILDREN

ORATION ON SURGERY *

MALVERN B. CLOPTON, M.D.
ST. LOUIS

I have selected the subject of appendicitis in children for my address because it has been a matter of much interest to me, and because there are certain points that should be emphasized even at the risk of appearing trite. In children the disease differs from what we are accustomed to see in adults. The special peculiarities of appendicitis in children are the "insidiousness of onset, the rapidity of its progress toward perforation or gangrene and extravasation of the intestinal contents, with the subsequent production of peritonitis, either local or widespread" (Finney). As it is more frequent than has been supposed, and the symptoms are often mistaken, and if mistaken lead to serious developments, the disease assumes a special importance of its own, and as the disease is more rapid than in adults, treatment must be applied at the earliest opportunity and surgery offers the only relief.

FREQUENCY

From earliest infancy to old age no time of life is immune from this disease. One of the youngest cases reported is by Dixon, who operated on a 24-day-old baby with a strangulated hernia in which a gangrenous appendix was found. A few cases, because of the difficulty of diagnosis, go unrecognized, but the fact remains that appendicitis in infants is a very rare disease. McCosh found that only 1.7 per cent. of his 1,000 cases occurred between the age of 1 and 5 years, and Churchman,¹ analyzing 1,223 cases treated at the Johns Hopkins Hospital, found less than 1 per cent. in children under 6 years, and he states that the surgical problem of appendicitis in infants is that of diagnosis, and that the difficulty of diagnosis keeps up the mortality. About 16 per cent. of all cases of appendicitis occur in children. Deaver found in his series of 500 cases in children that 8 per cent. of the cases were in the first five years. Churchman constructed charts from the figures of frequency of appendicitis in the various five-year periods, from infancy to old age, using the tables of the Johns Hopkins cases and those of

McCosh. These were strikingly similar and showed that the curves are nearly symmetrical, rising rapidly to the summit between the 21st and 25th years (20.85 per cent. of his cases) and falling as rapidly to the 40th to 45th year, and then more gradually dropping to the later years. Barmann states that the danger of appendicitis in children is greater in the first years of life, and finds a 50 per cent. mortality in all infants under 5 years that were treated in the 117 cases in children reported in his series.

In the cases of appendicitis in children treated within the past eighteen months at the St. Louis Children's Hospital we have 9 per cent. in the first 5 years, 54 per cent. between 5 and 10 years, and 37 per cent. in the 10 to 15 year group.

In all the reports we find the males greatly increased over the females, just as is found in adults.

PATHOLOGY AND ETIOLOGY

The important feature of the pathology of appendicitis in children is the early development of gangrene, either of the whole organ or portions of it. The acute catarrhal stage is rapidly passed, and the diffuse inflammation brings about a thickening and lengthening, so that we find appendices of over twice their normal length (the appendix in children is relatively longer than in the adult), and as big as the index finger. In the mildest cases the mucous membrane is swollen and reddened with but slight infiltration of the more external layers, and there is an increase of secretion which may escape into the cecum, and the inflammation subside. Repeated attacks of such catarrhal inflammation leave the appendix thickened, its lumen narrowed or constricted at points, its mucous membrane swollen or ulcerated. The acute stage may go on to excessive hyperemia, with prominent blood vessels, and the canal contain a purulent exudate often mingled with blood. Ulceration is usually irregular and ragged, and external evidence of this is seen in dark colored areas on the surface, which early tend to perforation. These ulcerations frequently correspond to the location of a fecal concretion. It is not uncommon to find miliary abscesses due to the direct action of bacteria on the tissues. But as stated before, the most characteristic finding in children is gangrene, which follows an obstruction of the circulation, either of a small artery supplying part of the organ, or of the main vessel. The obstruction of the blood supply may be from a progressive infectious thrombosis, or by twists and angulation. Gangrene may also be present, caused by the tension of the unyielding muscular coats when pressed upon by the intense swelling of the inner layers. Churchman finds that appen-

* Read at the meeting of the Medical Association of the Southwest, Galveston, Texas, Nov. 11, 1914.

1. Churchman figures for frequency an .735 per cent. for 1 to 5 years, 4 per cent. 5 to 10 years, 11.44 per cent. 11 to 15 years, making 16 per cent. for all cases up to 15 years. McCosh's table shows 1 to 5 years 1.7 per cent., 5 to 10 years 5.1 per cent., 10 to 15 years 8.5 per cent., or 15.3 per cent. for children up to 15 years. Deaver considering only the 500 cases of children he had operated, found 40 (8 per cent.) 1 to 5 years, from 6 to 10 years the frequency jumps to 36 per cent. (180 cases) and reaches 56 per cent. in those between the ages of 11 and 15 years (280 cases).

ditis in children presents certain pathologic features, which distinguish it from the same disease in adults, namely: the tendency to early perforation and the frequency of spreading peritonitis. In our cases a third have been gangrenous throughout, or in part, and perforation has accounted for the peritonitis in another large group. Only one-third of our cases have been uncomplicated acute inflammations, where the inflammation has been confined to the appendix and permitted a closure of the wound without drainage. One-half of the cases have had a more or less localized collection of pus outside the appendix, and one-eighth of the cases showed a spreading peritonitis. The position of the appendix as shown by Kelly is most frequently downward and inward and the tip lies in the peritoneal cavity. In his anatomic study the retrocecal position either of the extra-peritoneal ascending type, or lying along the posterior wall of the cecum, but covered with peritoneum, forming a small proportion (4 per cent.) of the cases. We have found in our operations on children for appendicitis that the appendix has been retrocecal in 30 per cent. of the cases, and many of these have been gangrenous. We have not found the appendix in the pelvis often. Several times we have noted a half twist of the meso-appendix, which probably was a factor in the stasis that resulted in gangrene. Twice have we had definite history of trauma, once in a boy who hurt his abdomen crawling over a fence, and five days later when we saw him and operated he had a gangrenous appendix with a large localized collection of pus. The other case was a boy who had been hit over the right side of the abdomen with a baseball. The following day he had acute pain and vomiting, and when we saw him and operated on the third day a gangrenous appendix was found lying in an abscess. Fecal concretions have been found in a fifth of the cases. Springer believes they are more common in children than in adults. In one case operated several years ago, in a boy of twelve, we found two raisin seeds that lay at the tip, which had become gangrenous. Family predisposition was also noted in this case, as he had two other brothers who had similar severe cases, without the foreign body, however. There are many instances in the literature, as well as in our experience, which point to the likelihood of members of certain families being attacked by appendicitis. Still draws attention to the pin-worm (*oxyuris vermicularis*) as the cause of catarrhal troubles in the appendix. We have in three cases found the large swollen appendix with a sanguine purulent collection in the lumen, the pin-worm undoubtedly having been the exciting cause, as they were numerous in the discharge. Other intestinal parasites may cause intestinal irritation that leads to appendicitis,

but their causal rôle is not so prominent as the pin-worm. Enteric fever and intestinal catarrh certainly produce congestion of the appendix, which with superficial loss of epithelium may prepare the way for infection of the deeper layers. After an epidemic of influenza there have been severe acute attacks of appendicitis. On account of the large amount of lymphoid tissue, the appendix has been called the abdominal tonsil, and it has been considered as likely of invasion as the lymphoid tissue elsewhere. The association with the infectious and contagious diseases is possible. Hamburger and Finney have found appendicitis in association with acute rheumatism and with measles, but we have not encountered it.

SYMPTOMS

The general consensus of opinion is, that the symptoms of appendicitis in children are vague and indefinite and lack the pointed precision of the adult form, in which the diagnosis is frequently made before the visit of the physician. This difference between the disease in infancy and childhood from that in later life, assumes the utmost importance, when we consider the likelihood of an early grave pathologic change in the appendix in early life. As Finney says, "In the adults the tendency is perhaps rather to mistake something else for appendicitis, while in the child it is to mistake appendicitis for something else, and therein lies the danger." Most of the cases come on suddenly with vomiting and violent cramping, but it is often impossible to gain a clear statement of the character of the pain or get any aid in locating the seat of greatest intensity. In a fair number of cases the onset is rather mild, without much vomiting, and comparatively little pain, or the attack may be ushered in with a headache and practically no complaint of the abdominal distress. Vomiting is a fairly constant symptom, and it may usher in many of the diseases of childhood. But in them vomiting usually ceases after the stomach has been emptied, however, should it continue, it is fair evidence of irritation in the intestinal canal. Pain may be continuous or colicky, it may be severe or mild, or there may be little or none at all. Frequently it is general, but in our experience it has in more than half the cases been referred to the right iliac fossa. This is not in agreement with Finney, in whose experience the initial pain, when referred to any region below the umbilicus, has its origin much more frequently in some other structure than an inflamed appendix, while the pain of appendicular origin almost always is referred to the umbilicus or the epigastrium. In those cases where pain is on the left side, the appendix has been pointed in that direction, and in a few instances has

ruptured with the formation of an abscess or general peritonitis. One of our cases began, two weeks before admission, to complain of the hip, and there was only the slightest abdominal pain, with no vomiting. She limped about and slept poorly, but had no definite night cries, and the child was feverish. She was brought to the hospital, her thigh flexed to 45 degrees, with a diagnosis of hip disease. A mass was found in the appendix region, which proved to be an abscess with a gangrenous appendix lying in it. The danger of mistaking chronic appendicitis for hip disease, was pointed out by Gibney in 1881, and it is well to bear in mind that the inflamed appendix can rest on the psoas sheath and give confusing symptoms that may be considered as originating in the hip. In a few of our cases there has been disturbance of micturition either when trying to urinate, or as in one chronic case with repeated attacks, the frequent and painful urination far overshadowed the mild abdominal pain. Some authors consider pain accompanying micturition of the greatest diagnostic significance. In one of Churchman's cases in infants, the chief complaint was painful micturition suggesting calculus and retention of urine, and all symptoms disappeared after emptying and searching the bladder, but shortly the baby sickened again and was operated, when a perforated appendix was found.

In the chronic form of appendicitis, the digestive disturbances are usually the chief symptoms, and nutrition is often so low that there may be marked emaciation. Other chronic cases show disturbance only at the time of the attacks. In our experience the chronic form is very uncommon, representing less than one-fifth of the cases. This is in contrast to appendicitis in adults, where over half of the cases operated on are of the chronic type. This dissimilarity may be due in part to the failure to recognize the chronic form in children, and the greater ease of diagnosis of the acute type, particularly in the presence of a mass or rigidity. However, we are inclined to believe that the bad acute cases, either are so severe that the diagnosis is forced on the practitioner and they call the surgeon in consultation, or that the illness so rapidly becomes grave and hopeless that nothing is done.

Deaver contends that "all cases of abdominal trouble in children are appendicitis until proved otherwise," and the proof is gained only by a most careful systematic examination of all the organs. Abdominal palpation in a child offers difficulties that are hard to meet, particularly in a sick, frightened child in great pain, but it is possible to overcome it with tact and patience and make a satisfactory examination. Tenderness over the appendix with muscle spasm are

the earliest and most valuable signs, and should we fail to find them on the first examination, we should return from time to time. In an incredibly short time the picture will change, and the earliest opportunity to explore is the one that discloses the least diseased appendix. An important finding in many of our cases, inasmuch as so large a proportion of the appendices have been retrocecal, has been tenderness in the loin, which has been a little lower down than the tenderness of pyelitis, or beginning perinephritic abscess. Rectal palpation affords a more valuable aid than in adults, as the finger can extend higher and the appendix can be more easily reached, so that even in the acute stage the tenderness or mass can be made out. When an abscess has formed or peritonitis has started in the pelvis there is an unmistakable fullness, before any such evidence is shown through the parietes. Karewski points to the fact that most cases of appendicitis are preceded by attacks of gastro-intestinal disorder with more or less pain and diarrhea, together with nausea and vomiting, so that in the beginning of an attack, attention is directed to the digestion. In our series of acute cases there had been no irregularity of the bowels in over half, while constipation and diarrhea were present in about equal proportion of the remaining cases. The temperature, pulse and respiration are of less diagnostic significance in children than in adults because of their greater variation and their proneness to respond to slight stimuli.

The value of the leukocyte count is mainly confirmatory of inflammation. There has been no difference in the average count of pus cases and those without pus (19,000 white blood cells to c.mm.), nor have we been able from the differential count and the actual count to make any prognosis. The counts have varied from a 32,000 count (95 per cent. poly.—5 per cent. mono.) in an acute catarrhal case, to 8,800 (76 per cent. poly.—24 per cent. mono.) in a gangrenous case with peritonitis. The generally accepted view is that the prognosis is favorable the greater the leukocytes and the larger the proportion of polymorphonuclears, provided the temperature and pulse are proportionate and not high, while the lower the leukocytes and the lower the temperature and the more frequent the pulse the more unfavorable and severe the course.

The course of appendicitis in infants makes a diagnosis even more difficult than in children. An infection of the severest type may be present without giving any of the classical symptoms, and even a general peritonitis may develop while under watchful care. Churchman's analysis makes him observe that all urinary symptoms in children should suggest

the possibility of appendicitis, and in infants with apparent hip joint disease, particularly if the thigh is flexed this possibility should be kept in mind. Selter points out that the younger the child, the deeper the cecum and appendix in the pelvis, and it is conceivable that bladder symptoms may be the most prominent. Rectal examination in infants often gives us the most valuable information, and catheterizing the bladder may help a great deal in clearing up a doubtful case.

DIAGNOSIS

The propensity of children to eat irregularly and indiscreetly of appetizing but indigestible foods makes gastro-intestinal disturbance not only common, but expected crisis in every child's life. These distressing disturbances may be the forerunner of appendicitis, and under such circumstances, disease developing in the appendix may be overlooked and a speedy cure expected from a dose of oil and fasting. Mistakes are not unlikely, therefore the abdominal and rectal signs should be carefully watched for, particularly if the administration of a cathartic is ineffectual or makes the pain worse.

Next to indigestion, pneumonia is perhaps the disease that comes to mind most frequently when we consider the likelihood of a mistake in a case that is not altogether clear. At the onset of a right-sided croupous pneumonia pain may be referred to the abdomen that incriminates the appendix, there may be vomiting with distention of the abdomen and the clinical picture may be most deceiving. The lung findings may be negative at first, but the absence of spasm of the abdominal muscles can give us confidence to postpone interference until the signs of pneumonia appear. Many cases have been operated on this mistaken diagnosis, and we can testify that in the few cases we have seen where we suspected pneumonia, although the lungs seemed clear and the signs were all abdominal, the interval of waiting was an anxious one and not at all comfortable, and there was a great relief when consolidation was made out. Morse says that "if in addition to the acute onset and high temperature the rapidity of respiration is increased out of proportion to that of the pulse, the combination is almost pathognomonic of pneumonia. This is true even in the absence of a cough."

Intestinal obstruction may be due to volvulus or to intussusception, and either may be mistaken for appendicitis in the early stages. Intussusception is important to differentiate as it is largely a disease of childhood, coming on suddenly, with tympanites. The paroxysmal pain, discharge of bloody mucus from the anus and a sausage-shaped tumor which shifts and lack of muscle spasm offer points of difference

from appendicitis, but as the peritoneal irritation and infection develop, due to the permeability of the gangrenous bowel, differentiation from appendiceal peritonitis is impossible. There are also those cases of intussusception where the intussusceptum starts at this point of the colon. Some cases are reported of inversion of the appendix which formed the tumor that tipped the intussusceptum, and there is a case reported where the stump of an appendix formed a tumor that led to a return of an intussusception which had been operated and reduced and the appendix amputated (Burghard).

The recurrent vomiting of children, attended as it sometimes is with fever, may give the impression that the case is one of appendicitis with mildly inflamed extraperitoneal appendix which fails to give the signs of peritoneal involvement. The almost constant association of acidosis with cyclic vomiting is well known, and the appearance of acetone on the breath and in the urine helps to make the diagnosis. On the other hand we found acetone in the urine in at least a third of our cases before operation and in about half after operation, and in a large number the breath has had the characteristic sweet odor which is unmistakable. While we have not as yet seen a case of cyclic vomiting in children where we suspected the appendix, that such confusion may arise is possible. In our hospital work, where children of the poor are treated, cyclic vomiting is not as frequent a finding as among the children of the well-to-do, and the differential diagnosis is therefore not as often called for.

Hip disease may be simulated in cases where the diseased appendix tip reaches along the psoas either with or without an abscess forming. Gibney's cases have many duplicates in later practice similar to the one that I have already mentioned. A careful examination can usually rule out hip-joint disease by showing lack of muscle spasm. The limitation of motion is usually to full extension of the limb due to contraction or spasm of the psoas. In the later stages the Roentgen ray may help by ruling out disease of the bone. There is a reflex pain in the sacro-iliac joint or neighborhood that may be due to a diseased cecum or appendix as we have seen on one occasion and as one is reported by Kelly. Lumbar abscess of Potts has been mistaken for appendicitis.

The appendix is found in the hernial sac of children due, according to Piersol, to the anatomic connection of the appendix with the plica vascularis, and to the adhesions of the appendix to the migratory peritoneum adjacent to the cord, or to the low lying cecum with a long appendix and a wide open inguinal ring. In one instance under our care the appendix was

suspected as part of the contents of the hernial sac before operation and was so found later. We have twice removed appendices appearing in the course of hernia operations, because they have appeared thickened. Dixon operated on a 24-day-old infant for strangulated inguinal hernia and found a gangrenous appendix. Gloneger (quoted by Kelly) operated on a 41-hour-old baby for a hernia along the umbilical cord in which were the cecum and part of the colon and small intestines. The appendix was thick and stiff and was removed. The baby recovered.

Tuberculosis of the peritoneum may originate in the appendix and may give a picture that in the beginning is very typical, but later offer many difficulties of diagnosis. The enlargement of the mesenteric lymph-nodes, particularly if due to tuberculosis, have presented masses that were tender, and when these masses were located in the right iliac fossa have been mistaken for appendicitis. It is rarely necessary to consider gall-stones in making a differential diagnosis because they are practically unknown in children.

COMPLICATIONS

Of the most frequent complications of appendicitis, abscess is so common, particularly in children, that in them at least it is considered part of the disease and we are delighted when we do not find it. Secondary abscesses are uncommon, though not rare, occurring usually beneath the liver, and usually making their diagnosis one of considerable difficulty. They occur less frequently in children than in adults and may come early or be very late, even as long as one and a half years after the primary appendectomy. The infection usually reaches the under surface of the liver as a direct extension upward from a general peritonitis, or through the medium of the portal vein or by lymphatic extension up the retroperitoneal cellular tissue. It occurs in less than 1 per cent. of cases according to Ross. Peritonitis, if local, usually results in an abscess, but often there is little or no effort to wall off infection. Peritonitis has been extensive in one-eighth of our cases, but the pelvis has been involved more frequently.

Intestinal obstruction due to appendicitis occurs in about 2 per cent. of the cases, according to Körte. The early obstruction which represents half of these cases is due to paralytic ileus, either from the peritonitis or from kinks due to adhesions or from thickening of the bowel. The late cases are always mechanical. These cases offer a grave prognosis either when the obstruction has occurred before the appendix was removed or after appendectomy. Usually half of them die. The best prevention is early operation.

Septic pneumonia follows appendicitis, or operation for pus or peritonitis in a certain proportion of cases, and is probably independent of the kind of anesthetic given.

RESULTS

The comparison of the results of operations for appendicitis in adults and children will show more favorable figures for the children. The most remarkable recoveries that we can recall have been in children. Cases that have been weakened by infection and unable to take nourishment because of obstruction due to the peritonitis, have been given up as hopeless, but still respond to treatment and turn the corner and begin to improve and eventually get well. More than once have we seen cases with a general peritonitis get over it, develop obstruction of the bowels, which disappeared, and they eventually succumbed to an enteritis that was too severe for the weakened organism to withstand. Deaver, in his 500 cases of appendicitis in children, found a mortality of 4.6 per cent. We have in our series had a mortality of less than 4 per cent. These figures compare favorably with the recent figures for adults given by Schnitzler, who operated 2,000 cases with a mortality of 10 per cent., or the Presbyterian Hospital cases with a mortality of 6 per cent. in 1,200 cases or 10 per cent., if only the acute cases are considered. In all statistics the mortality rate for operations performed in the first twenty-four hours is from 1 to 3 per cent., and the rate mounts rapidly up to 25 per cent. for late operations. As Churchman says, the mortality in infants is due to the inability to make a diagnosis until it is too late to expect cure.

TREATMENT

We believe that all cases of appendicitis in children should be operated immediately the diagnosis is made. In the beginning of the attack one may be able to remove the infected organ intact with its dangerous contents safely enclosed. Under such circumstances the mortality is a negligible quantity and dependent on accidents over which the surgeon has little control. Of the propriety of operation in the presence of such acute lesions or of operation during the quiescent periods of disease for chronic or relapsing conditions there is no question. In the presence of a localized abscess the operation is to drain this collection and to remove the appendix if possible without prolonging the operation unduly. In rare instances where the appendix is hard to find and seeking for it will entail dangerous handling of uninfected tissue, it is best to leave the source of trouble and be satisfied with evacuating the pus, and postpone the removal of the appendix for a second operation; but in our experience those

cases are rare, and we take out the appendix in practically every instance. The dangerous stage of appendicitis, occurring between the third and sixth day with the infection not circumscribed, but involving the neighboring organs in the acute inflammatory process or the early pathologic changes of a circumscribed or general peritonitis, gives us the period in which the question of operation has divided the surgical world into two camps. Shall we operate such cases immediately or shall we delay and follow Ochsner, and by diminishing peristalsis wait until these intraperitoneal processes are well localized, and by giving abundant fluids help to dispel the general toxemia? Our practice has been to operate these cases as soon as consulted, making the chief object of the operation to drain the peritoneal infection, and the removal of the appendix is only done when it presents itself immediately to hand. Our results have been satisfactory enough to make us continue this practice. Finney says that he feels safer to make a quick incision inserting a drain at the most dependent portion, and then to apply the Ochsner treatment, and he calls attention to the fact that in children the Ochsner treatment cannot be carried out to the same extent as in adults. Certainly the least that one can possibly do that is effective under these circumstances is often the best that one can do. Opposed to these beliefs we find Deaver, who, in cases of localizing abscess, with diffuse peritonitis, general abdominal tenderness with more or less distention and bilateral rigidity, and moderately high temperature, defers operation until a localized collection is made out, when the abscess is evacuated. In 20 of his 500 cases he waited from two to twelve days. In these cases whether we wait or not, the peritoneum must be handled gently. If the peritonitis is general or pelvic a split rubber tube is inserted into the lowest part. The abscess cavity is drained with a gutta percha covered gauze strand. The patient is propped up in Fowlers' position and all fluids are withheld by mouth, but every hour from 2 to 4 ounces of plain water is injected into the rectum. We have not been successful with the Murphy drip in the rectum of children except in cases that are so sick that the annoyance of the rectal tube is passed unnoticed. Morphine in small doses is used to keep down the pain and preserve quiet. In children that have had the strain of a long illness, where starvation and intestinal distress have worn down their resistance, restlessness and sleeplessness are overcome by small doses of the deodorized tincture of opium or chloral given by rectum.

Intestinal obstruction is an all too frequent complication of peritonitis after appendicitis.

It is due either to a paralysis due to the infection or to bands and adhesions which form later. If the frequent use of the stomach tube fails to show relief of the vomiting and distention, it is sometimes necessary to do an enterostomy, as rapidly as possible, selecting the first distended loop that presents itself. If the obstruction develops late, it may be due to a band of constriction which can be divided or it may be necessary to sidetrack the bowel around the obstruction.

We use for most cases the Kammerer incision, as it is easy to drain through, and if we can close the wound, it makes an excellent closure. We try to use nitrous oxid and oxygen as an anesthetic in all pus cases, and hesitate to give ether in these cases because of the toxic effect which is enhanced in the presence of infection. At times we have to give a little ether in combination with nitrous oxid to carry the anesthesia deep enough. In interval cases we use ether, just as in any abdominal case.

Humboldt Building.

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THE BLOOD CHANGES IN TUBERCULOSIS*

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The blood changes occurring in tuberculosis are of interest more from a standpoint of immunity, pathologic physiology and possibly also prognosis, than from a standpoint of practical diagnosis or treatment.

The neutrophil leukocytes are not remarkably altered and apparently play a minor rôle in the pathology of the disease. They are usually about normal in number. There is frequently found a leukopenia. Miliary tuberculosis and phthisis Florida are more often associated with a leukocytosis than with a normal count or leukopenia. A slight leukocytosis usually occurs as a result of softening of tuberculous areas, and also is often found in cases with extensive cavities. It is interesting to note, in this connection, that a tuberculin reaction is

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nearly always associated with a leukocytosis which varies from ten to twenty thousand. This may be present, even in the absence of fever.

A discussion of the leukocytes would hardly be complete without a few words regarding Arnath's differential leukocyte count. This count is based on a tabulation of the polymorphonuclear neutrophils according to the number of nuclei they contain. Normal leukocytes contain from one to five, connected by tiny threads. Briefly stated, a great preponderance of cells containing three, four or five nuclei indicates good resistance, regardless of the size of the lesion. An equal number of, or preponderance of, the cells containing one, two and three nuclei suggests poor resistance. This sign, like most clinical signs, occasionally gives contradictory results, and may lead to error. On the whole, however, it offers a good, and often the best, chance of anticipating a change in a patient's general condition. In patients having small lesions, an unfavorable count is of bad prognostic import. The converse is equally true. In patients having favorable counts improvement in the general condition may be looked for even though the local lesion be gross. The physician can hardly feel safe in considering a case arrested unless this count is about normal.

In tuberculosis the lymphocytes are of greater interest than the polymorphonuclear leukocytes. They are often increased in number, both relatively and absolutely. In the more recent contributions to the subject, it is stated that the lymphocytes may constitute as much as 50 per cent. of the total number of leukocytes in favorable cases, and may drop to as low as 10 per cent. in rapidly fatal cases. The view that lymphoid tissue plays an important part in the defense against tuberculosis is at present rapidly gaining ground. It is difficult to understand why the lymphoid cells which are so constantly present about tuberculous foci have been ignored as protective factors and regarded only as a reaction of tissue disintegration. It is a significant and well recognized fact that relatively few lymphocytes are found in the tubercles of rapidly fatal miliary tuberculosis, while in subacute cases, where a greater degree of immunity may be assumed, they are present in large number. Murphy has called attention to an interesting analogy existing between cancer and tuberculosis with respect to this defensive reaction. He expresses surprise at the fact that the round cell infiltration, which is so striking a feature about certain examples of slow growing or healing cancer, has always been assigned a secondary rôle, namely, that of a reaction of tissue destruction rather than one of active defense.

It is well known that normal tissues or new growths experimentally transplanted from one animal to another of the same species grows rapidly, but that such transplants made between animals of different species disintegrate immediately. For example, mouse carcinoma grows if implanted experimentally in mice, but fails to grow if implanted in species even as nearly related as rats. Murphy has demonstrated that chick embryos differ from adult chickens in that they have normally no resistance against the growth of tissues of foreign species grafted into them. It is most surprising and interesting to know that such implants grow until about the time of hatching and then rapidly disintegrate and are absorbed. In searching for the change in the nature of the chick responsible for this suddenly acquired resistance, Murphy noted a total lack of round cell infiltration about the grafts in young embryos. This is constantly present about implants made in adult chickens and also appears about the graft in embryos near the time for hatching, that is, at the time they became resistant. If adult lymphatic tissue is transplanted into an embryo it at once becomes as resistant as the adult, and a dense infiltration of round cells appears about foreign grafts implanted in it. He has also shown that if the lymphatic system of an adult animal is destroyed by means of the Roentgen ray, the animal loses to a marked degree its power of destroying tissue grafts from foreign species. In animals thus treated there is also a striking absence of the round cell infiltration about implanted grafts. In analogous experiments, Murphy has shown that animals depleted of their lymphoid tissue by X-radiation are much more susceptible to Bovine tuberculosis than normal animals used as controls. These interesting observations explain possibly the relative immunity which lymphatic and hypoplastic individuals possess against chronic tuberculosis. In both instances the lymphatic system is usually highly developed.

In tuberculosis the red count varies with the stage, severity of the disease, and with the complications present. In the average case it is about normal, although it may be occasionally increased or markedly decreased. The pale face of a tuberculous patient bears little or no relationship to the red count, and, surprising as it may seem, the count is found slightly increased more often than it is found reduced. It must be added, however, that many cases of secondary anemia are nothing more or less than examples of hidden tuberculosis. To correctly interpret a given count of red cells it is well to bear in mind the various factors which can cause variation in their number. Hemorrhage, sepsis, severe tuberculous toxemia, etc., all tend

to reduce the count; while severe diarrhea and profuse sweats often lead to temporary increases in the count, by causing a temporary concentration of the blood. Tuberculous toxemia is without question a cause of anemia. I have noticed the development of anemia of high grade in rabbits treated with large doses of tuberculin. It is not impossible, however, that this same toxemia is a cause of a real polycythemia when it is present in such degrees as to act as an irritant instead of as a poison to the generation of red cells. In the polycythemia which is often observed in advanced tuberculosis (sometimes as high as eight million red cells per mm.), one cannot disregard chronic cyanosis as a factor. This factor is chiefly to be considered in extensive chronic lesions, especially in fibroid phthisis. It is well known that in certain diseases, such as emphysema, mitral stenosis, congenital heart disease, etc., which are associated with cyanosis of many years' duration, there is almost invariably a polycythemia. Red counts as high as 9,000,000 and more are by no means rare in these diseases. Experimental studies have suggested that in all probability the oxygen deficiency of the blood is the agent which stimulates the excessive formation of red cells. For example, animals kept for a time in an atmosphere containing only 10 per cent. oxygen show a marked increase in the red count. Retardation of the circulation, such as can be produced by ligation of the larger veins, is also followed by an increase in the red count. The same may be observed after ligation of a large artery leading to an extremity. In the latter case, normoblasts have been found in blood taken from the emissary vein of the bone-marrow affected. The above facts have been made use of in the treatment of anemia. It has been stated that patients kept for two hours a day in an atmosphere of 10 per cent. oxygen show a definite increase in the red count.

Another point relating to the blood which is well worth mentioning, concerns the occurrence of tubercle bacilli in the circulating blood. This has been demonstrated beyond question a number of times in miliary and in chronic tuberculosis. There is the greatest diversity of opinion, however, regarding the frequency with which they can be found in the various types of disease. Positive inoculation tests made with the blood of patients having miliary tuberculosis were obtained by Villenin as early as 1868. These results have been verified by a number of observers. In 1909 the medical world was startled by a paper of Rosenberger's in which he stated that he had found tubercle bacilli in the blood of 100 per cent. of forty-nine cases of tuberculosis of all stages which he had exam-

ined. Little credence was given the work in this country, and little interest was taken in it, but in Germany a score of researches along this line followed. The technic was elaborated and perfected to such a degree that one would think gross error could have been nearly eliminated, but in spite of this, results have been reported by different observers which vary all the way from 100 per cent. positive findings in all types of cases to practically 100 per cent. negative findings. Observers reporting positive results outnumber those reporting negative results, and although they claim to have taken the greatest care in their technic to avoid error and describe their methods in great detail, they have not yet succeeded in convincing the observers who obtained negative results. Many of the former express doubt and some of them disbelief, that the acid-fast organisms which they found were in reality tubercle bacilli. An almost insurmountable objection to the view of Rosenberger lies in the enormous discrepancy between the high percentage of microscopic findings and the very low percentage of positive inoculation results; and in the fact that some observers report positive microscopic findings in as many as 40 per cent. of healed cases, and even in a large percentage of apparently normal individuals. It appears incredible that tuberculosis could be a septicemia to this extent and that living tubercle bacilli float around in the blood of apparently normal individuals without deleterious effect. It seems impossible that the acid-fast bacilli found so often in the blood by many observers were in reality tubercle bacilli. One can safely assert that a clinical diagnosis based on such an examination is not justifiable. Several examinations made by the writer a few years ago on advanced cases with fever were negative.

In connection with the blood, it might be permissible to say a few words relative to blood-pressure. There is some variance of opinion in this field of work also, but on two facts writers are generally agreed. First, the blood pressure in tuberculous patients is lower than in non-tuberculous individuals, and second, it is lower in advanced tuberculosis than it is in the early stages of the disease. The blood pressure is influenced by so many factors, such as age, habits, climate, condition of the kidneys, blood-vessels, etc., that an average blood-pressure made in a large number of cases of tuberculosis gives an erroneous idea as to the characteristic pressure. It is common to find arteriosclerosis in patients who have had tuberculosis for a number of years, and this tends to mask the low pressure typical of the disease. Strandgaard, from an analysis of 622 cases, gives the following averages: Incipient cases, 125 mm.; moderately advanced cases, 121 mm.; advanced cases,

118 mm. Burckhardt gives the following figures: Incipient cases, 107.6; moderately advanced cases, 104.6; advanced cases, 100.3. Pottenger as follows: Incipient cases, 100.4; moderately advanced cases, 97.3; advanced cases, 95.4.

One of the most interesting elements of the blood in tuberculosis are the blood-platelets. These minute, fragile bodies, so numerous in the blood, so variable in size, shape and number, so profoundly influenced by disease and various poisons, must play some important rôle in the physiological economy which has not yet been proved. The platelets must have an extremely active metabolism or rather life cycle, for, as has been shown by the writer, when they are introduced into the blood by transfusion in patients having a diminished number of platelets they disappear totally within a few days (three to five days); also their entire number can be completely regenerated within the same period of three to five days when they are almost entirely removed from an animal body by repeated withdrawal, defibrination and reinjection intravenously, of large amounts of blood.

The platelets are profoundly altered in tuberculosis. It is generally stated that they are nearly always increased in number. Some observations of the writer are not entirely in harmony with this. In a previous paper, I reported experiments showing the behavior of the platelet count in animals following the injection of varying quantities of diphtheria toxin, benzol and tuberculin, and have since made observations, not yet published, following the use of killed cultures of typhoid bacilli, tetanus toxin and the Roentgen ray. All these results are in harmony with a view I expressed previously, that variation in the platelet count in many diseases is a result of the action of toxic substances on bone-marrow, small amounts of which act as irritants, producing a rise in the count and large amounts of which act as poisons, producing a fall in the count. This view harmonizes well with my findings in a large number of tuberculous patients examined in the clinic of Professor von Romberg at Tübingen, Würtemberg. The count was nearly always increased, occasionally enormously increased (to more than 1 million per mm.), but in two instances, it was reduced (in one case to 55,000, in another to less than 1,000). The cases with high counts displayed presumably the effects of irritating amounts of the toxins of tuberculosis; those with the low counts, the effects of larger and poisonous amounts. Before concluding, it might be added that the cases showing low counts displayed hemorrhagic diathesis—one of them a most severe purpura hemorrhagica.

This I have attempted to prove is invariably present when the number of platelets is reduced to sufficiently low level. The condition persists so long as the platelet count remains low and disappears immediately when the platelet count rises. It can be relieved immediately by introducing platelets into the patient's circulation by direct transfusion of blood. I have also reproduced this condition in animals experimentally by reducing the platelet count with benzol and diphtheria toxin. I do not wish to suggest by any means that the hemoptysis of tuberculosis has any relationship whatever to blood-platelets, nor that all types of purpura observed in tuberculosis are due to a deficiency of platelets. There is certainly, however, one type of hemorrhagic diathesis which occasionally complicates tuberculosis, a type which presents a distinctive and characteristic clinical picture which is invariably associated with, and I believe is due directly to, an almost total absence of these interesting little bodies.

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JOINT SYPHILIS*

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In contradistinction with syphilis of the bones and Charcot joints—conditions recognized by everyone and not touched on in this paper—joint syphilis is often not readily recognized. The literature on the subject is meager, especially in this country, and the textbooks usually dismiss it with only a few lines. I believe, however, that it is one of the most common causes of joint disturbance, and that if the various forms in which it manifests itself were more clearly understood, there would be fewer diagnoses of joint tuberculosis, osteo-arthritis, and other similar conditions.

In this country a majority of the writers on the subject of syphilitic arthritis believe that it is more common than is generally supposed. In a recent report from Panama, 63 cases out of 100 of arthritis in negro canal workers were syphilitic. Ten per cent. of the patients seen in the Orthopedic Clinic of the Washington University Hospital, from January 1, 1913, to February 1, 1913, were diagnosed as having syphilitic arthritis. I feel that this is a conservative estimate because a number of cases were not recognized. Three and eight-tenths per cent. of all joint cases seen in this period gave a positive Wassermann. This again is low, because a Wassermann was not made of all the cases. These statistics would indicate that joint syphilis is more common than is generally supposed.

The subject may be divided into acquired and congenital syphilitic arthritis. In acquired syphilitic arthritis there are three more or less distinct types: (a) early secondary, (b) secondary, (c) tertiary.

(a) In the early secondary stage of syphilis there is a multiple arthralgia, which may appear at the time of the operation or several weeks before. Swelling is as a rule absent but if present is usually very slight. The pain is severe and generally worse at nights. This pain is probably toxic in origin, and is similar to the joint pains in other infectious diseases.

(b) During the secondary stage synovitis is common. The onset may be acute without any constitutional symptoms, or with only a slight malaise, accompanied by moderate pain and tenderness, but increased by motion. At times, however, there may be marked fever and the condition may closely simulate rheumatic fever. Several joints may be involved.

Chronic hydrops usually appears late in the secondary stage. The onset is, as a rule, slow and insidious, usually without pain. The hy-

drops is often the only symptom. The knee is most frequently affected.

(c) In the tertiary stage, gummatous osteitis is frequently the cause of a secondary involvement of the adjacent joints. In these cases the destruction to the joint is more marked than in other forms. The pain is much less than in tuberculous conditions.

Subacute and chronic synovitis is also seen. Absence of or slight pain and interference with motion is the rule. The amount of fluid varies. There may be a slight fever. The condition may resemble rheumatoid arthritis, and may appear a number of years after the initial lesion. Intermittent hydrops is also met with.

A gummatous form may at first resemble sub-acute synovitis, but subsequently a gummatous mass may be felt as a very irregular lumpy thickening of the synovia. The amount of pain varies and is frequently greater at night. Motion may be only slightly limited, and may cause little pain. Remissions and almost complete cure are characteristic. The condition may be mistaken for tuberculosis. If the adjacent tissues become involved, a gumma may break into the joint and open then to the surface, thus leading to an infection of the joint. A condition is met with where the surface of the inflamed joint is covered with circular and serpiginous ulcers; this is especially the case in women past middle age. This form may cause a degenerative osteitis with considerable destruction of tissue and loss of function.

There is also a form of arthritis in which the bone changes are most prominent, marked hyperosteoses develop rapidly. Ankylosis or marked relaxation may result. Pain, if present, is greater at night.

The tertiary is also responsible for a number of osteo-arthritic changes, including spondylitis.

In tertiary syphilis the knee is most often affected.

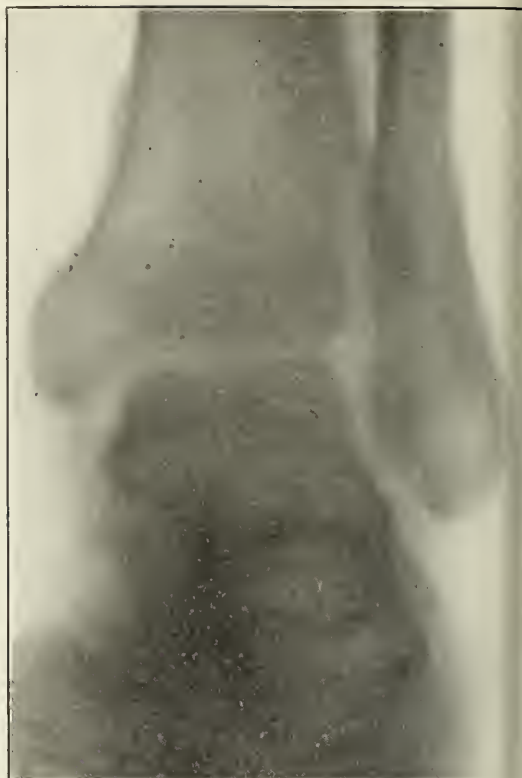
In congenital syphilitic arthritis, one form seems to run into the other. The most common is a simple symmetrical synovial effusion, usually developing in the knee and occurring in patients between the ages of eight and fifteen. The amount of fluid varies and there is very little pain or interference with the function. It may be secondary to involvement of the neighboring bones.

The osteochondritis of Parrot is a synovitis which may be purulent in character, secondary to neighboring bone involvement. There is thickening at the epiphyseal line, tenderness and joint inflammation, accompanied by lameness and even temporary loss of function. In severe cases there may be marked destruction. Several joints may be involved. This condition occurs in early infancy.

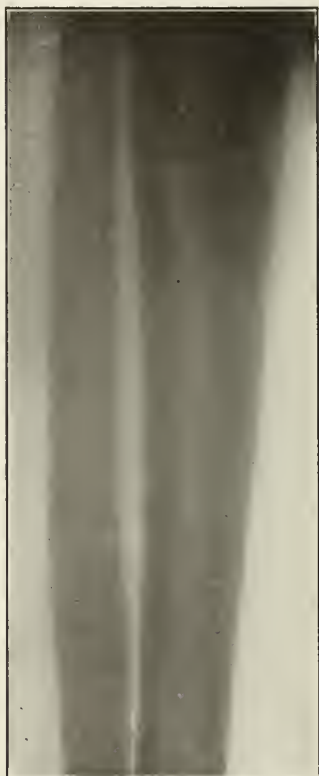
* Read before the St. Louis Medical Society, Nov. 21, 1914.



Case 1. Slide No. 1.



Case 3. Slide No. 3.



Case 1. Slide No. 2.



Case 4. Slide No. 4.

There may be a single osteo-orthropathy, most common in large joints. The onset is insidious with nocturnal pain. The condition simulates tumor albus. Limitation of motion is mechanical.

Gummatous synovitis similar to that of acquired syphilis is also seen.

An epiphysis may become enlarged and irregular, resulting in marked limitation of motion or ankylosis. Pain is absent or slight.

In children about fourteen there is a recurring synovitis with chronic inflammation of the neighboring bones. This form is probably parasyphilitic and is practically incurable.

Our knowledge of the microscopic changes in the first two types is not very extensive, as these rarely come to autopsy or to operation. In the gummatous type the specimens closely resemble the changes in tuberculosis. On close study they show the characteristics of the gumma.

In both acquired and congenital syphilis bone destruction takes place in the gummatous stage.

As will be seen from the foregoing description, the symptoms are not at all definite. In fact they may simulate almost any of the various joint conditions. Absence of or very slight pain, however, seems to be the predominating feature, and when present it is usually worse at night. It may be absent even with marked joint involvement and destruction. Motion does not as a rule increase the pain. The symptoms may jump from one joint to another before definitely settling in one or more joints. The onset is generally gradual. It is the exception which proves the rule and in joint syphilis the exceptions seem to be almost as common as the rule.

The diagnosis of joint syphilis must be made on the history, the physical findings, the symptoms, the Roentgen ray and the Wassermann test.

The history is of importance in helping the diagnosis. The patient may admit having had syphilis, but if not, careful questioning may give a clue by bringing out some of the cardinal signs of syphilis. A number of patients deny having had syphilis, but give a history of a soft chancre or slight abrasion. Many of these have given a positive Wassermann reaction, so that we have come to the conclusion that many supposed soft chancres and abrasions are really syphilitic.

The symptoms and physical findings are not very valuable in making a diagnosis, as they may be similar to almost any of the other conditions. The absence and the time of pain are suggestive, however.

The Roentgen ray is of value. It too may be similar to osteo-arthritis and tuberculosis, but a careful examination of the plate will usually show periosteal thickening and irregularity.

The Wassermann test is the greatest help in making a diagnosis. If negative, however, it should be repeated two or three times to make sure that something has not interfered with the reaction.

I do not believe that one is justified in making a diagnosis of joint syphilis unless it is confirmed by the Wassermann test if possible, and especially by the therapeutic test. If the condition is syphilitic, it will show marked improvement under treatment. In some cases the improvement seems almost miraculous.

The treatment of joint syphilis is practically the same as for any other form of syphilis. If there is much pain or destruction the joint should have rest and fixation. We have used salvarsan and neosalvarsan in some cases with very good success.

If the diagnosis is made and the treatment faithfully carried out the prognosis is good. In the later stages where destruction has taken place treatment usually stops the progress of the disease, but there will be some impairment of function.

I shall now report a few cases showing some of the types of syphilitic arthritis, and shall illustrate them with Roentgen-ray photographs. A very careful history and physical examination were made in each case, but for the sake of brevity I shall touch only on some of the interesting points.

CASE 1.—L. B., female, aged 45, married, colored, cook.

Syphilitic periostitis. "Whites" one year ago. Subject to tonsillitis. Four years ago fell out of window on knees. Right knee became sore and remained so up to the present time. Two years ago had pain in the back and hips, aching in character, worse while resting. (Slide No. 1.)

Left elbow painful to pressure; motion slightly limited by spasm. Right knee slightly painful on motion, moderate synovial thickening. Indurated area about size of an egg on right calf; very painful to pressure. Wassermann positive. (Slide No. 2.)

Patient showed marked improvement under mixed treatment. The attendance was very irregular, as she did not return when feeling well. As a result, though the joint lesions were practically cured, she developed a gumma of the brain and unfortunately disappeared.

CASE 2.—H. F., male, aged 19, single, white, tin factory.

Syphilitic synovitis. Always well. Denies all venereal infection. No other history of syphilis. Uses right leg constantly in shifting levers. Has had a swelling in joint about once a year which recovers. At present has had swelling in right knee about two weeks. Pain constant, worse in day. Tonsils large; inguinal glands enlarged. Right knee slightly swollen. Motions free; little pain on motion. Slight increase of surface temperature. Wassermann strongly positive. Roentgen ray shows nothing abnormal. Patient improved under treatment. Disappeared from clinic but was reported by the social service department to be working without symptoms. This case is interesting because there was no history of venereal disease.



Case 4. Slide No. 3.



Case 5. Slide No. 7.



Case 4. Slide No. 6



Case 5. Slide No. 8.

CASE 3.—G. W., male, aged 34, single, white, steel worker.

Gummatous arthritis. (Slide No. 3.) Patient gave a definite history of gonorrhea and syphilis. Ten or twelve years ago developed a lump on right ankle. This was opened and got well. Two years ago ankle gradually became swollen and painful. Has not been able to work since 1911. Ankle was opened and drained twice at the Washington University Hospital with little help. Tissue from operation inoculated into guinea-pig with no result. Right ankle swollen large and hard, but not painful. Motion limited, but not painful. Two healed sinuses present and scars from former operations. Cannot step on foot. Symptoms improved steadily under specific treatment, but foot was practically useless as a result of bone destruction.

At this time a diagnosis of atrophic arthritis was made, both on the history and on the Roentgen ray. The ear and nose conditions were treated and cured and a treatment for atrophic arthritis was instituted. There was no improvement in the joint conditions, especially the knee. Later a gynecological examination revealed a chronic urethritis and Bartholinitis, but no gonococci. A more detailed history of her marital life aroused suspicion and a Wassermann was made which proved positive. The patient was given potassium iodide and mercury inunctions. There was considerable improvement. (Slide No. 6.)

The iodide, however, had to be given up as the patient could not tolerate it. She was then given neosalvarsan in the buttocks. She returned in about a week and showed the most wonderful improvement; the pain had disappeared and the patient was able



Case 5. Slide No. 9.



Case 6. Slide No. 10.

CASE 4.—N. C., female, aged 48, married, white, house work, cook.

Atrophic arthritis. (Slide No. 4.) Always well. Occasional sore throat. No children; no miscarriages. No history of venereal infection.

Four years ago had pain and swelling in joints, jumping from one joint to the other, finally settling in the hands and knees. Had discharge from the ears and nose before joint involvement. Shortly before lost hair. At time of joint trouble had fever. At present knuckles of both hands are markedly swollen. Slight thickening left elbow. Motions practically normal, no pain. Right knee shows marked fusiform swelling. One hundred and fifty permanent flexion. Passive motion to 90°. Knee painful. (Slide No. 5.)

to walk with little difficulty. Three other doses of neosalvarsan were given. The improvement was steady and most marked. The flexion disappeared, also the swelling, and the patient was able to go to work after a year's non-employment.

This case is of interest as it shows the ease with which a diagnosis of syphilitic arthritis may be overlooked, and also for the almost wonderful cure following neosalvarsan.

CASE 5.—J. R., female, aged 38, married, colored, laundrywoman.

Luetic arthritis and osteitis. (Slide No. 7.) Has been sick a good deal, but has had no specific disease. For ten years has had sick headaches, coming on in the afternoon and bad at night. Denies venereal

infection. Five children died young, cause not known. One miscarriage. Right elbow became swollen and painful about five months ago and shortly afterwards knees became involved. For last two months has not been able to walk. (Slide No. 8.)

No general glandular enlargements. Right elbow shows a general fusiform swelling, not hot. Motion from 20° flexion to right angle. Palpable enlargement over internal epitrochlear about size of a walnut. Surface over olecranon and upper end of ulna thickened and tender. Knees flexed 20° contains fluid. Left tibia throughout length rough and tender to the touch. Wassermann positive.

The elbow was opened and a condition found closely resembling tuberculosis. A piece of bone and adherent tissue was removed for pathologic examination, from which the following report was received (Slide No. 9): "Necrotic areas, surrounded by connective tissue, infiltrated with epithelioid cells and by

died in one hour. Father had mild rheumatic pains. Patient was being treated for interstitial keratitis. During this time and two weeks before coming to hospital developed swollen, painful knee. When seen, the left knee was held rigid by spasm and very sensitive. There was slight local temperature. The left knee was three-fourths of an inch larger than the right and the patella was riding. Wassermann was positive. (Slide No. 11.)

The patient was put in the Children's Hospital and was given three doses of neosalvarsan. Between the doses of neosalvarsan she was given mixed treatment. The improvement was very marked and at the end of seven weeks she was discharged from the hospital well, except for the eye condition which was much improved. The patient is still being treated in the eye clinic. The eye condition is very much improved, and the joints are absolutely well.

This case is of interest in illustrating the type of congenital syphilitic synovitis, and also in showing the effect of neosalvarsan on congenital syphilis.

In conclusion, then, I believe that the following are the essential points in connection with the subject of joint syphilis: It is more common than has been supposed, and the more general use of the Wassermann reaction and the Roentgen ray tend to show that a large number of cases supposed to be tuberculosis, synovitis, osteo-arthritis, infectious arthritis, etc., are really syphilitic in origin. A Wassermann test should be made in all cases of arthritis as a routine, and when positive the diagnosis should be confirmed by the therapeutic test. The absolute necessity of this is obvious, as the difference between the treatment of syphilis and the other conditions is so radical that the prognosis depends essentially on the correctness of the diagnosis and the resulting treatment. All cases in which there is a history of indefinite joint tenderness, multiple joint involvement, pain, whether increased at night or not, or when the pain and functional disability are not proportionate to the amount of joint involvement, should be regarded with suspicion. In fact, in all cases, when there is any doubt as to the diagnosis, syphilis should be looked for.

Metropolitan Building.



Case 6. Slide No. 11.

lymphocytes, are seen throughout. An occasional giant cell is seen. Muscle and bone in some areas are seen infiltrated by cells. Diagnosis: tuberculosis osteomyelitis." At a later and more minute study of the specimen, this diagnosis was altered and changes "distinctly characteristic of the gumma" were found. Portions of the specimen were inoculated into a guinea-pig. The pig remained healthy and showed no evidence of infection.

The patient was put on specific treatment and improved completely.

This case is of interest as it shows the great similarity between tuberculosis and some forms of syphilis and the ease with which they may be confused.

CASE 6.—N. D., female, aged 8, white, single, school-child. (Slide No. 10.)

Multiple syphilitic arthritis; congenital. Mother had one miscarriage and one premature child which

MISSOURI'S MENTAL DEFECTIVES

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The term mental defective is commonly applied to two distinct classes of persons. First, lunatics, demented or insane persons who have from disorder of the mind or from a decay of their mental faculties lost the power of managing themselves or their affairs. Second, imbeciles or persons who, because their brains are incapable of normal development, have never had and never will have power of managing themselves

or their affairs. When we speak of a mentally defective person, we are generally referring to the second class, and in this article I shall confine my remarks to that class.

All mental defectives are not defective to the same degree; we divide them into three grades: First, the morons, who represent the highest grade of mentally defective; second, the imbeciles, who are a little lower in the grade of intelligence than morons; third, the idiots, the lowest grade.

DEFINITION

The Royal College of Physicians of London recommended the following definition for these three grades, and it was adopted by the Royal Commission on the care and control of the feeble-minded appointed in 1904:

"A moron is one who is capable of earning a living under favorable circumstances, but is incapable from mental defects existing from birth or from an early age (a), of competing on equal terms with his normal fellows or (b), of managing himself or his affairs with ordinary prudence."

"The imbecile is one who by reason of mental defects existing from birth or from an early age is incapable of earning his own living, but is capable of guarding himself against common physical dangers."

"An idiot is one so deeply defective in mind from birth or from an early age that he is unable to guard himself against common physical dangers."

In addition to the above are the moral imbeciles. A moral imbecile has been defined as a person who by reason of an innate defect displays at an early age vicious or criminal propensities which are of an incorrigible or unusual nature and are generally associated with some slight limitation of intellect.

It is well to note that the conditions enumerated above are incurable and life-long in character. Temporary insanity may be and is commonly cured. Children who are backward or retarded in their mental development because of adverse factors in infancy and childhood may be brought up to the normal level by suitable treatment. But a mentally defective child, though capable of being developed and trained to some extent, can never be raised to a normal level.

The fundamental cause of mental defects is brain defect. Accidents at birth, such as injury to or hemorrhage into the brain, may destroy an amount of brain tissue sufficient to render it impossible for the child to properly develop mentally. Hemorrhage as a result of convulsions after birth and encephalitis during infancy or early childhood may produce the same result,

as may meningitis or meningo-encephalitis. Hydrocephalus may also prevent proper brain development; syphilis, congenital or acquired, in early infancy or childhood may damage the brain sufficiently to prevent proper mental development. All these causes, however, are of minor importance in the production of mental defectiveness. The most important of all causes is hereditary brain defect.

Sir Clifford Allbut has said: "I regard feeble-mindedness, if not accidental, as always hereditary, or in other words, it is a ratio of variation. I have never met with a case of manufactured feeble-mindedness apart from some accident at birth or afterward. I attach great weight to inheritance."

Dr. Ashby, medical officer to the special schools at Manchester, says: "In at least 75 per cent. of children with amentia that I have examined, there was a strong probability that the amentia was hereditary and primary." The term amentia is here used to cover all grades of mental defects of early life.

Dr. Bevan Lewis declared: "There is not the least doubt of it in my mind; I look upon feeble-mindedness as germinal variation just as all variations are." Dr. Tredgold found evidence of a neuropathic inheritance in 80 per cent. of his cases. Dr. Frederick Williams, director of education, gave evidence to the effect that in almost every case where parents of mentally defective children appeared before the committee or before magistrates, it was found that the parents themselves were similarly affected. Prof. Sir E. Ray Lancaster holds that congenital feeble-mindedness is spontaneous originally and truly hereditary subsequently, and is not brought about by starvation and other such conditions. Dr. Archibald Reid is of the opinion that the great majority of cases of feeble-mindedness are innate and tend to be inherited.

The Royal Commission on the care and control of the feeble-minded in England, in summing up their report expressed the following conclusions: First, "both on the grounds of fact and of theory there is the highest degree of probability that feeble-mindedness is usually spontaneous in origin; that is, not due to influence acting on parent, and tends strongly to be inherited"; second, "that especially in view of the evidence concerning fertility, the prevention of mentally defective persons from becoming parents would tend largely to diminish the number of such persons in the population"; third, "that the evidence for the conclusion strongly supports measures which on other grounds are of pressing importance by placing mentally defective persons, men and women, who are living at large and uncontrolled, in institutions where they can receive care and training, and in this

and other ways kept under effectual supervision so long as may be necessary."

Miss Danielson investigated a community where feeble-mindedness was riot and found that the descendants of two families had populated the district with feeble-minded persons.

Easterbrook studied the defectives of an isolated community and concluded that heredity plays a part in indolence, alcoholism, licentiousness and shyness.

Davenport has investigated many American families for the purpose of illustrating the inheritance of normal and abnormal traits. He refers to the family of Jonathan Edwards, saying: "They constitute a glorious galaxy of America's educators, students and moral leaders of the public." The "First Families of Virginia," he says, "is a sample merely of the intermarriages of the first families and their products—statesmen and military men, the necessary consequence of the determinants in their germ-plasm." Of the Kentucky aristocracy he says: "They were governors and senators, members of Congress and presidents of colleges, eminent divines and brave generals from Virginia, Kentucky, Louisiana, Missouri, California, Ohio, New York, Indiana and South Carolina; four Governors of Old Virginia, members of the cabinets of Jefferson, Taylor, Buchanan and Lincoln. They had major-generals and brigadier-generals by the dozens, members of the Senate and House of Representatives by the score and officers of the army and navy by the hundred." The "First Families of Virginia" were generally descended from Richard Lee of a Shropshire family that held much land and many of whose members had been knighted. The Kentucky aristocracy was descended from John Preston of Londonderry, Irish born though English bred and married to the Irish girl, Elizabeth Patton of Donegal.

In contrast with these families are the cases of families of defectives and criminals that can be traced back to a single ancestry. The Juke family is well known. They were united to the family of Max, a backwoodsman in New York and a descendant of the early Dutch settlers.

Davenport says: "He was a good natured, lazy sot, without doubt of defective mentality." He had two sons, one of whom married a woman known as Ada Juke, also as "Margaret, the mother of criminals." She was indolent and a harlot before marriage. Another son of Max married Effie Juke. Their progeny showed some larceny and not a little sexual immorality, but pauperism was the prevailing trait. The progeny of Ada Juke and the son of Max showed a preponderance of harlotry in the females, licentiousness and criminalistic ten-

dencies in the males to the fifth generation. The progeny of another sister of Ada and Effie Juke, called Belle Juke, is a varied monotony of harlotry and licentiousness to the fifth generation. Thus, as Davenport says, in the same environment the descendants of the illegitimate son of Ada were prevailingly criminal, the progeny of Belle were sexually immoral and the off-spring of Effie were paupers. But, however varied the difference in the prevailing forms of non-social behavior in the progeny of the Juke girls, the result was calculated to cost the state of New York over a million and a quarter of dollars in seventy-five years up to 1877, and their protoplasm has been multiplied and dispersed in the subsequent thirty-four years, and is still marching on.

Rev. Oscar C. McCullough, of the charity organization society of Indianapolis, investigated the tribe of Ishmael of central Indiana. The father of this tribe was Ben Ishmael. Since 1840 this family has had a pauper record; they have been in the almshouses, the houses of refuge, the woman's reformatory, the penitentiary and have received continuous aid from the townships. They are intermarried to the other members of this group and with over two hundred other families. In this family-history are murderers, a large number of illegitimates and prostitutes. They are generally diseased, the children die young; they live by petty stealing, begging and ash-gathering. In summer they live or travel in wagons from east to west.

A second typical case is that of the Owens family from Kentucky. There were originally four children of whom two have been traced, William and Brook.

William had three children who raised pauper families. The son of the third generation died in the penitentiary, two sons of the fourth generation have been in the penitentiary, a daughter in the fourth generation was a prostitute with two illegitimate children, another son in the third generation had a penitentiary record and died of delirium tremens. An illegitimate half-breed Canadian woman entered this family. There have been several murderers and a continuous pauper and criminal record. There was much prostitution, but little intemperance.

These examples are extreme, but they show conclusively that good and bad traits are transmitted from generation to generation. The law of heredity is inexorable and as long as the mental defectives are permitted to propagate, there will be bred in the community an anti-social class of persons, antisocial because possessed of such traits as feeble-mindedness, wandering mania, eroticism and moral imbecility.

THE PROPORTION OF MENTALLY DEFECTIVE TO
GENERAL POPULATION

The estimates given in different countries vary. The Royal Commission of England estimated that one out of every two hundred and seventeen is either an idiot, an imbecile, a moron or a moral imbecile. This estimate is conceded to be under the actual ratio. In some towns of England the percentage is as high as 1 per cent. In the United States the ratio is not so high. It is conceded by all investigators, however, that at least one in five hundred persons in the United States is either an idiot, imbecile, moron or a moral imbecile. This would give an approximate total of two hundred thousand persons distributed throughout the various states.

It is my opinion that this estimate is too low. I believe a more careful investigation will demonstrate the number to be almost double that given. With a ratio of one to five hundred, however, Missouri, with a population of approximately four million, would have eight thousand idiots, imbeciles, morons or moral imbeciles within her border—eight thousand persons, exclusive of the insane and epileptics, who are not capable of managing themselves or their affairs and many of whom are perpetuating and increasing their kind.

Accepting then the fact that this state has a considerable population who are non-producers and non-conservators of wealth, and many of whom are antisocial in their traits and tendencies, the question may very correctly be asked, what is the duty of the state toward these persons. As I see it, it is the duty of the state to care for these unfortunates, to protect society against their antisocial tendencies, and as far as possible prevent them from begetting their kind.

At the present time less than 10 per cent. of this class are being cared for in institutions. If less than 10 per cent. of this class are being cared for in institutions by the state the question is suggested, what about the other 90 per cent.?

THE CRIMINAL PROBLEM

A careful mental test proves that more than 50 per cent. of the criminal class are feeble-minded and incapable of managing themselves and their affairs with ordinary prudence. Every such person is a potential criminal, is easily led into crime and should not be dealt with as offenders against society, but as persons lacking the ability to lead non-criminal lives.

ALCOHOLISM

Society has for generations been much concerned about drunkenness, intemperance and its

consequences. The feeble-minded are not capable of controlling their appetites, and every feeble-minded person is a potential drunkard. They easily contract habits of intemperance. Many of the habitual drunkards are feeble-minded, and I believe that all habitual and incurable drunkards are mentally defective. They are so commonly associated that I consider chronic drunkenness to be a symptom of mental defectiveness.

PROSTITUTION AND THE WHITE SLAVE TRAFFIC

Another problem that is receiving considerable attention at the present time is the problem of prostitution and the white slave traffic. There is no complete data showing the relationship between prostitution and the white slave traffic and feeble-mindedness. Dr. Bridgman of Geneva, Ill., states that in the reformatory at Geneva, of 104 girls committed for immoral life, 97 per cent. were feeble-minded. It is generally conceded by competent judges that more than 50 per cent. of all prostitutes are feeble-minded.

Here again we see a manifestation of the antisocial traits of the mentally defective. It must be conceded by all who have given any thought to the subject that all feeble-minded persons are potentially immoral and the low resisting power of feeble-minded girls constantly tends to lead them into lives of prostitution.

PAUPERISM

Goddard says a pauper is a person who will not work sufficiently to earn his living. He is lazy and prefers to live at the expense of someone else, or he is a person who has been overtaken by misfortune and has become a pauper because of circumstances over which he has no control. Neither of these definitions cover all the cases. He says very few of the paupers are such solely because of misfortune. There are many reasons for believing that a man who is lazy is abnormal either in mind or body or both. The hookworm disease has made paupers of many of the people of the South where this disease abounds. A lazy boy is abnormal; he is either diseased or defective. Children normally are energetic and ambitious. A mentally defective person is incapable of competing with his fellows and in many cases cannot earn a living by his labors because of his mental handicap. There is a strong tendency for such a person to become a pauper. I believe we can correctly conclude that all paupers who have not gross physical disabilities are mentally deficient. An investigation again shows that more than 50 per cent. of the inmates of our almshouses belong to the class of mentally defective.

NE'R-DO-WELLS

This is another class of persons found in every community whose social state is determined by their mental disabilities. They are not paupers, not criminals, drunkards or prostitutes, but are shiftless, incompetent, and are unsatisfactory and undesirable members of society. Because of their mental difficulties they are unable in most instances to adapt themselves to their environment. They are incapable of continuously acquiring for themselves the necessities of life and must at varying intervals be the recipients of charity from their neighbors.

TRUANTS

It is necessary in many communities to have truant officers because of the attitude of certain children relative to attending school. Many children are incapable of adapting themselves to the school environment and they become truants. The majority of truants are such because they cannot succeed in school. The relation of truancy to feeble-mindedness has not been thoroughly investigated, but one study of the subject shows over 80 per cent. of truants to be feeble-minded. The non-understanding of and the impatience of teachers with mentally defective children who are incapable of progressing in school in a normal manner drive many of them to truancy.

We have in our ignorance been considering or accepting criminalism, alcoholism, pauperism, prostitution, etc., as necessary evils, and for them we are paying millions in money and untold misery and suffering, and our posterity must continue to pay an ever increasing amount unless we do our duty now toward those who are mentally defective and who manifest these antisocial tendencies, not because they are evilly inclined, but because under existing conditions they cannot do otherwise.

It is the duty of the state to supervise and care for those who are mentally defective and prevent them from propagating their kind.

The Royal Commissioners recommended: "First, it is very important that feeble-minded persons should come under control at an early age before they have learned bad habits, and while their mental faculties, permanently crippled though they are, can yet be developed and trained on the right lines. To assure this it is necessary (a), that feeble-mindedness shall be diagnosed early and (b), the parents shall be told how to care for and train their child. Second, that as soon as it is old enough, the child should come under the care of skilled teachers, so that its mental powers may be developed as much as possible. This may be brought about either by admitting the child to a residential institution for life-long care, or by sending it to a special day school.

I believe every feeble-minded child should be made a ward of the state. Special schools should be provided for the education and training of all backward and retarded children. The home life and training of all such children should be investigated in order that there may be intelligent cooperation between parents and teachers.

The training of such children should be chiefly along the lines of mechanical pursuits. All those who can be raised to an approximately normal mental level may be permitted to manage themselves and their affairs. Those who cannot be raised to a normal level should be given life-long care and supervision in an institution. The majority of them while residing in institutions can be employed in gainful occupations, and if political incompetency is eliminated and such institutions managed intelligently, they can be made to approximate self-support. It would be economy, however, even if they were entirely supported by the state. Such institutional care of the mentally defective would eliminate from consideration by our authorities more than 50 per cent. of the criminals, drunkards, prostitutes and paupers.

Giving them institutional care would reduce the birth-rate and the number of those requiring such care would gradually decrease. This is really the only successful method of controlling and preventing the birth of feeble-minded children. Laws restricting marriage do not meet the requirements as many of them are born out of wedlock. I have known many feeble-minded girls and women who were the mothers of one or more feeble-minded children of illegitimate birth.

Every new-born feeble-minded child, either legitimate or illegitimate, makes the problem just a little more complex. We must deal with it in some manner. Our feeble-minded class cannot be ignored. If we do not take charge of them in early childhood, educate and train them to the highest point of efficiency, keep them away from evil environment and evil influences and prevent them from begetting their kind, we must give them attention after they develop antisocial traits and practices, and our posterity will have a larger problem to solve than have we, because this class is very fertile. The Royal Commissioners found that the families of feeble-minded average six children per family, which is a much higher average than of the non-feeble-minded.

Criminalism, prostitution and drunkenness are in the main luxuries and not necessities; we are paying hundreds of millions of dollars annually for the pleasure of enjoying them, and our posterity must continue to pay an ever increasing amount unless we do our duty now

and provide institutions of adequate facilities for caring for those who are feeble-minded and who furnish the principal recruits for this great army of the antisocial class.

Rialto Building.

THE ICTERIC DISEASES OF THE NEW-BORN INFANT*

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Jaundice is one of the most frequent symptoms of the new-born infant and usually has little significance. The benign cases are grouped under the name *icterus neonatorum*. The frequency of icterus is given by different authorities in varying numbers from 15 to 80 per cent. It is as yet impossible to explain these observed differences on a physiologic or pathologic basis. The feeble and premature infants are especially liable to persistent jaundice. Occasionally, in institutions a period may be observed in which all newly-born infants suffer from intense icterus. At other periods this symptom is not prominent. The intensity varies much, but no seasonal variations have been recorded. If Knopfmacher's theory of increased viscosity of the bile is correct, more cases should be observed in the summer, when all tissue fluids are subject to more or less desiccation.

The stools in these cases show no peculiarities, bile is always present. In spite of intense jaundice, the urine does not usually respond to the ordinary tests for bile pigments. Formerly it was believed that the kidneys of the new-born infant do not excrete bile pigment, but Parrot and Robin demonstrated that bile pigment was present in crystals in the urinary sediment. Knopfmacher explains the poor solvent power of the bile pigment by the small quantity of alkaline phosphates in the urine.

For half a century there has been a lively discussion as to the pathogenesis of *icterus neonatorum*. The old theory of Virchow, that the cause lay in an obstruction of the common bile duct by a mucus plug, is generally discredited; Quincke referred the jaundice to a patent ductus venosus Aurantii; Von Hasse attempted to explain the jaundice by the pressure exerted on the liver by the diaphragm. Other theories are, a hyperemia of the liver compressing the biliary passages, congenital narrowing of the ducts, desquamative catarrh of the common bile duct, increased viscosity of the bile, and diminished secretory or excretory function of the liver cells. Some have tried to connect the process with intestinal infection and

secondary biliary catarrh. Of special interest is the finding of Ada Hirsch that the umbilical blood of the new-born infant has a very high content of bilirubin, and the intensity of the icterus depends on the amount of this biliary substance in the blood. There is an imbibition of the cellular organism of bilirubin. Other authors had previously pointed out a pleiochromia of the blood in the great destruction of hemoglobin and attempted to connect this phenomenon with icterus.

WHY SHOULD THE NEW-BORN BE SUBJECT TO ICTERUS?

Von Reuss summarizes the etiological factors, all of which are more or less concerned in the disposition of the newly-born to icterus, as follows:

1. Mechanical factors, such as narrowing of the biliary ducts and increased viscosity of the bile.
2. The plethora of the new-born organism in coloring matter, hematin and bilirubin.
3. The functional insufficiency of the liver cells, from congenital, toxic or infectious causes.

The practitioner should remember that it is impossible in a given case to ascertain which one of these factors is the most important. The icterus clears up after a few days, certainly after two or three weeks, and alone should not be an indication for internal medication. To me the administration of calomel seems contraindicated, since it may do harm, and what is known of the physiologic action of mercury, can do no good.

Another point in this connection: Operative procedures during the icteric period should not be performed. There is a great tendency to uncontrollable hemorrhage, deficient reparative processes and even sloughing. Circumcisions, cutting the frenum of the tongue, and other minor operations, should not be performed when the infant is jaundiced, or about to become jaundiced.

Jaundice without concomitant symptoms may be assumed to be benign. If, however, additional symptoms are manifested, such as extreme restlessness, complete anorexia, febrile movement, cyanosis, stupor, convulsions, even the jaundice must receive most careful consideration. Contrary to the common belief, obliteration of the bile passages is not a condition immediately fatal. In these cases, even the meconium is light gray in color and soon after the infant nurses, the stools become as white as milk and remain so. The urine soon shows the brown color characteristic of bilirubinuria. As a rule, these infants live for weeks, or even months, when properly cared for. Such a case came under my care a few years ago.

* Read before the St. Louis Medical Society, Oct. 17, 1914.

CASE 1.—A. Z., aged 5 months, was brought to St. Louis from the country. The baby showed an intense jaundice, the skin being of a brownish orange color. The mucous membrane of the eyes and mouth was also intensely yellow. The urine was yellowish brown and stained the napkins. The stool, however, was as white as the milk ingested. The infant had been in this condition since birth. In spite of this, it had grown to some extent and seemed fairly comfortable. It died of an acute enteritis when six months old.

There is a serious form of jaundice in newborn infants usually grouped under the name of icterus gravis. Some of these are evidently forms of sepsis. Thus Lesage and Demlin (*Rev. de Med.*, 1898, p. 1) report a series of cases characterized by digestive disturbances, cyanosis, convulsions, some fever and intense jaundice, in which the colon bacillus in pure culture was obtained from the feces and also the blood. Hemolytic streptococci are apt to cause hemorrhages and consequently the disease is then classed among the hemorrhagic diseases.

There is still another group, which has been called "habitual icterus gravis," because several infants born of the same parents are afflicted by intense and fatal jaundice. The yellowish discoloration of the skin begins on the second or third day, and soon becomes very intense. The stools are dark in color, not acholic. Little or no fever is present. Slight diarrhea and vomiting usually occur. Cerebral symptoms arise, such as hyperesthesia with stupor, rigidity of the extremities, twitching of the muscles, and tonic and clonic convulsions. Several years ago such a case came under my care.

CASE 2.—A. Y., aged 3 days, was the second infant of the parents. The first baby was born after rather a prolonged labor, but on the third day an intense jaundice commenced, which ended in convulsions, coma and death in a week.

The parents were very solicitous about this baby when it showed some jaundice on the second day. On the third day the icterus deepened and the baby became soporose. Slight diarrhea developed and the baby was taken from the breast of the mother and a wet nurse secured. On the fourth day marked cerebral symptoms were present. The baby was in a state of stupor; twitching of the muscles and muscular rigidity supervened. The temperature remained in normal limits and the fontanelle showed no distention. Forced feeding was employed and sedatives administered. After a few days the cerebral symptoms began to subside and the infant recovered. The skin and mucous membrane, which had been intensely stained a dark orange yellow, cleared up in about three weeks. To my great surprise the infant, when a few months old, showed evidence of a cerebral diplegia. The child became a hopeless invalid with cerebral palsy and mental deficiency.

Several writers have described as post-mortem lesions a nuclear icterus of the brain in these cases. This circumscribed, sharply defined, yellow discoloration of the nerve centers has been found involving the lenticular nucleus, dentatus, olive, medulla and Luys'

bodies. Whether this produces permanent nerve lesions has not been ascertained. In my own case no evidence of a hemorrhagic abnormality was made out.

The actual cause of these forms of grave icterus is unknown; usually they are fatal. In all cases a blood culture should be made, and if this is sterile, an attempt at supplying a possibly deficient ferment by the subcutaneous injection of blood serum from a healthy parent is indicated. The brilliant results in certain forms of hemorrhagic disease by the therapeutic use of blood serum, suggests that it may be of some service in these cases.

While syphilis has been suggested as a possible cause of grave icterus, no positive evidence has been offered. In most cases reported, this disease has been excluded mainly on clinical grounds. The congenital syphilis of the liver does not give a picture of intense jaundice. Recently in a case of icterus gravis seen with Dr. Fahlen and Dr. Tuttle, a Wassermann test was made, but it proved negative.

Only three or four cases of gall-stones in the newly-born infant have been reported. There is no way to recognize their presence during life, unless the Roentgen ray might reveal them. In cases of obstructive jaundice a skiagram should be made.

Of general interest are the severe grades of jaundice which accompany certain forms of sepsis in the new-born. When a demonstrable local lesion is present, showing characteristic changes of infection, it is rational to regard an intense jaundice as arising from sepsis. This is especially done if purpura and hemorrhages are coexistent. Certain names, as Buhl's disease and Winkel's disease have found their way into text-books, but it is questionable that the syndrome described by these authors should be clinically separated from that larger group, known as sepsis neonatorum.

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TONSILLITIS*

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About fourteen years ago, while a senior medical student, I was taught that Waldeyer's lymphatic ring, composed of the lingual tonsil below, the pharyngeal above and the tubal and faucial tonsils on each side, constituted a natural guard-house against infections of the respiratory and digestive tracts. Here a large proportion of the malefactors of the germ family were halted, filtered out and met their fate in

* Read at the Southeast Missouri Medical Association at Sikeston, Mo., Oct. 21, 1914.

this magnificent system of lymphatic defense, and thus we were saved from one infection after another, making hair-breadth escapes from untold misery and possibly death.

Deeper investigation by scientific workers has, however, changed the trend of belief, and what was once lauded as a natural blessing is now looked on as a source of much mischief. Within the past few years no organ in the body has gained such a degree of notoriety as a natural offender as has the tonsil. Prominent in the lime light of pathology they stand as the actual starting point of a variety of ills. My former teacher, Dr. H. W. Loeb of St. Louis, read before an association of nose and throat specialists at Washington, D. C., in April, 1910, a scholarly article on "Acute Nephritis Following Tonsillitis" in which he claimed that acute nephritis is a very frequent sequel to tonsillitis, and reported several cases and quoted numerous authorities confirming his assertions. In a later number of the *Journal of the American Medical Association* the leading article was entitled "Chronic Urethritis and Ureteritis caused by Tonsillitis," by Guy L. Hunner, a professor of Johns Hopkins University. In Osler's *Modern Medicine*, Thomas McCrae speaks of the important relation of tonsillar infections to arthritis deformans. In a more recent paper by Rosenheim, in the *Johns Hopkins Hospital Bulletin*, he states that in a review of the literature he has found that tonsil infections have caused aneurysms, appendicitis, erysipelas, meningitis, iritis, pleuritis, pericarditis, pneumonia, paraplegia, strabismus, parotitis, nephritis, osteomyelitis, phlegmon of the lower extremities, orchitis, septicemia, typhoid fever, tuberculosis and many other diseases. Think of such an array of diseases finding entrance to the system by way of a tonsillitis attack. This should make us very conservative in our prognosis of a tonsillar infection. "Nature, careful of the type but careless of the single life," has so arranged matters that the vast majority of us, during adult life at least, are exempt from tonsillitis attacks. This exemption comes about by the natural atrophy of the tonsils which should normally begin about the twelfth year and be more or less complete a few years later. The presence of visible tonsillar tissue in an adult is the expression of a pathologic condition. Of course, we all see this almost daily, but as the majority of patients come to us by reason of pathologic conditions we become accustomed to seeing them and consider them commonplace. The disappearance of the tonsillar structures should take place in the order in which they appear in the embryo, *i. e.*, the pharyngeal first, the faucial second and the lingual last.

ETIOLOGY

Inflammation of the tonsils, like inflammation any place else, is the response of the tissues to an irritation and an infection. This is favored by a lowered resistance as a result of surface chilling or more directly favored by inhalation of irritant vapors or drinking irritating fluids.

Chief among predisposing causes are hypertrophic enlargements of the tonsils and a rheumatic or gouty diathesis. The causal organisms are legion, the chief ones being the streptococci and staphylococci.

Classification.—Some able writers make no attempt at classification of tonsillitis, maintaining that the different forms are but expressions of different degrees of virulence or extent of the infection. As the treatment is somewhat different I shall briefly describe the forms which we actually see and are frequently called on to treat.

First, we see the simple inflammations of the tonsils, where there is only redness and swelling accompanied by slight fever, soreness in the tonsils on attempting to swallow, loss of appetite and general aches and pains lasting twenty-four to forty-eight hours.

Second, we see the lacunar or follicular tonsillitis in which the tonsils are covered by white or grayish patches not unlike diphtheria and in which the general symptoms are severe, the temperature running from 102 to 103½ F., very painful swallowing, complete loss of appetite, pains in the ears, severe headache and other pains. These symptoms may extend over five or six days even under treatment.

Third, we see the parenchymatous tonsillitis in which there is great swelling and redness of the tonsils and adjacent structures, accompanied by severe pain in the throat with severe constitutional symptoms as in the lacunar form. These symptoms extend over five or six days until the abscess breaks or is incised by the physician.

DIAGNOSIS

The diagnosis of these forms presents no difficulty, but there may be great difficulty in differentiating lacunar and follicular tonsillitis from diphtheria.

The following points will serve as differential signs:

LACUNAR TONSILLITIS

Onset sudden.
Prostration not marked.
Exudate limited to tonsil.
History of previous attack.
Glandular involvement moderate.
Cultures and smear show streptococci.

DIPHThERIA

Onset gradual.
Prostration marked.
Exudate apt to bridge across palate.
History of an epidemic or exposure.
Glandular involvement extensive.
Cultures and smear show Klebs-Loeffler bacilli.

I regard the examination of the stained smear of much value, although good authorities rely mainly on the culture. I wish to describe the technic I have used with much satisfaction in making the culture at my office, thus saving the valuable time taken by sending it to a distant laboratory. I do not claim originality for the method, however. An ordinary vacuum bottle, similar to the Thermos, is filled half full of water which has been heated to 110 F.; a test tube of Loeffler's blood serum which has been inoculated by a sterile swab which has been drawn across the exudate in the throat, is then suspended by a thread into the water; the bottle is now corked and the cap screwed down tight. After ten or twelve hours, if a growth has appeared, it is usually diphtheria, which can be determined within a few minutes by making a smear, fixing it and staining for one minute with Loeffler's methylene-blue and examining it with a 1/12 oil immersion lens. I obtain the Loeffler's blood serum and sterile swabs from Parke, Davis & Co. for a small price.

TREATMENT

In regard to the treatment of tonsillitis, the ideal treatment would be recognition of the causal organism and then administering an anti-toxic serum for the organism found. We have not yet reached this state of accuracy, however.

The general treatment of all forms which I have followed for some years and which has been fairly satisfactory is as follows:

Rest in bed and light diet during febrile period. Give a capsule containing 3 gr. of salol, 2½ gr. of acetanilid and 1½ gr. of quinin sulphate every three hours. With this give a calomel or cascara purge.

In a child that cannot gargle, I give an aqueous solution of antipyrin every two or three hours, without water. This acts as a local anesthetic, antiseptic, analgesic and slight antipyretic. Instead of this, I frequently give an aqueous solution of potassium chlorate as advised by Kerley.

For local treatment of the lacunar form, I give equal parts of peroxid of hydrogen and the liquor antisepticus of the National Formulary; this solution to be diluted with an equal quantity of water and used as a gargle every two hours. For the simple tonsillitis cases I use, as a gargle, the alkaline antiseptic of the N. F., which is very similar to glycothymolin, this to be diluted with double the amount of warm water.

For the parenchymatous cases I use the same local treatment as for the lacunar form, until the appearance indicates a suppurating abscess, at which time I make a free incision with a bistoury which is all protected, except the point,

with a gauze bandage wrapped about it. I do not believe in an early free incision into the supra-tonsilla fossa which is frequently advocated. Wait until you can detect a fluctuating point. For several years I practiced the early free incision, only to find after making five or six punctures that I had failed to strike pus. These newly made punctures serve as new points of infection and only prolong and aggravate the condition as well as discourage the patient.

With the local application of guaiacol or silver nitrate I have had little experience; the reason was perhaps lack of faith. I tried aspirin locally in one lacunar case but could by no means see any benefit.

In cases suffering considerable glandular involvement, as well as pain, local applications of preparations similar to antiphlogistin give considerable relief to the patient's mind as well as his throat.

In conclusion, I will urge the routine examination of the throat in practically every case that consults you.

INTERNAL REVENUE DISTRICTS AND COUNTIES IN EACH DISTRICT FOR REGISTRATION UNDER HARRISON ANTINARCOTIC LAW

For the benefit of those members who have not yet registered under the new law governing the sale and prescribing of narcotics we give below the counties in each of the two districts in Missouri.

In addressing letters to collectors the title of their office and the postoffice address will be sufficient. All remittances for special taxes or for purchase orders should be in currency, money orders, or certified checks on national or state banks.

Physicians living in the following counties must address "Collector of Internal Revenue, Kansas City, Mo.": Andrew, Atchison, Barry, Barton, Bates, Benton, Buchanan, Caldwell, Camden, Carroll, Cass, Cedar, Chariton, Christian, Clay, Clinton, Cole, Cooper, Dade, Dallas, Daviess, Dekalb, Douglas, Gentry, Greene, Grundy, Harrison, Henry, Hickory, Holt, Howell, Jackson, Jasper, Johnson, Laclede, Lafayette, Lawrence, Livingston, McDonald, Mercer, Miller, Moniteau, Morgan, Newton, Nodaway, Ozark, Pettis, Platte, Polk, Putnam, Ray, St. Clair, Saline, Stone, Sullivan, Taney, Texas, Vernon, Webster, Worth and Wright.

Physicians living in the following counties must address "Collector of Internal Revenue, St. Louis, Mo.": Adair, Audrain, Bollinger, Boone, Butler, Callaway, Cape Girardeau, Carter, Clark, Crawford, Dent, Dunklin, Franklin, Gasconade, Howard, Iron, Jefferson, Knox, Lewis, Lincoln, Linn, Macon, Madison, Maries, Marion, Mississippi, Montgomery, Monroe, New Madrid, Oregon, Osage, Pemiscot, Perry, Phelps, Pike, Pulaski, Ralls, Randolph, Reynolds, Ripley, St. Charles, St. Francois, Ste. Genevieve, St. Louis, Schuyler, Scotland, Scott, Shannon, Shelby, Stoddard, Warren, Washington and Wayne.

ANDREAS VESALIUS

*List of Books and Pamphlets Exhibited by Members of the
St. Louis Medical History Club and others at the
Quarter Centenary Celebration of the
Birth of Andreas Vesalius.*

Missouri Historical Society, Jefferson Memorial, St. Louis, Dec. 2-24, 1914

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Glauber, John Rudolph, 1603-1668.—Of the collected works of, on Chemistry. A translation, published in 1688. (A written item on first page reads: "Y Joseph Draper, his book bought ye 12th. of 6th. month, 1780. Price was 100 dollars at 1 1/2d each.")

DR. JAMES MOORES BALL, ST. LOUIS:

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- Balescon, 1382-1414.—Practica 1490. Ends: Preclarissimum opus valesci de tharata reuerendissimi ingri necnon artis medicine doctoris famosissimi. Finit feliciter impssum Lugd. per Johannem trechsel alemanum. Anno nostrae salutis millesimo quadringetesimo nonagesimo die vero decimo nono mensis maij. Amen. (With a few MS. notes in contemporary hand.)
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- Cowper, William.—*Anatomia reformata or an Anatomical Treatise on the Muscles of the Human Body*. Illustrated with Figures after the Life. London, 1694.
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- Forestus, Peter.—*Opera Omnia*. Rothomagi. Sumptibus J. et D. Berthelin. Tom. Duo., 1653.
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- Lower, Richard.—*Traité du coeur. Du Mouvement et de la Couleur du Sang et du Passage du Chyle.* Paris. Estienne Michallet, MDCLXXIX.
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- Schenkii, Joannis a Grafenberg.—*Observationum Medicarum Rariorum Libri vii.* Lugduni. Sumptibus Joannis Antonii Huguetan, 1644.
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- Valsalva, Antonio Maria.—*Opera, Hoc est tractatus de aure Humana Tabulisque Archetypis Exornatus et Dissertationes Anatomicae Tabulis Itidem Illustratae.* Resensuit Joannes Baptista Morganus. Editio Quarta Homi duo. Venetiis, 1740. Apud Franciscum Pitteri.
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- Boyle, Sir Robert.—*The Origine of Formes and Qualities (according to the corpuscular Philosophy) Illustrated by Considerations and Experiments, written formerly by way of Notes upon an Essay about Nitre, By the Honorable Robert Boyle, Fellow of the Royal Society, Oxford.* Printed by H. Hall, Printer to the University, for Ric. Davis. An. Dom. MDCLXVI.
- Helvetius.—*Johannis Friderici Helvetii Vitulus aureus quem Mundus adorat et orat, In quo tractatur De Rarissimo Naturae Miraculo transmutandi Metalla, nempe Quomodo Tota Plumbi substantia vel intra momentum exquavis minima Lupides veri Philosophici particula in Aurum obry zum commutata fuerit.* Hagae Comit. Seneca Epist. 77. Amstelodami apud Johannem Jansonium a Waesberge et viduam Elizei Weyerstrut. MDCLXVII.
- Kerckringii, Theodori.—*Doctoris Medici Commentarius in Currum Triumphalem Antimonii Basilii Valentini, a se latinitate donatum.* Amstelodami. Sumptibus Andreas Frisii, MDCLXXI.

- Monardes, Nicholas.—*Simplicium Medicamentorum ex novo orbe delatorum quorum in Medicina usus est, Historia*. Hesperico sermone descripta a D. Nicolao Monardis, Hispalensi Medico; Latio deinde donata, et annotationibus, iconibusque affabre depictis illustrata a Carolo Clusio atrebat. Altera Editio. Antverpiae ex officina Christophori Plantini, Architypographi Reij. MDLXXIX.
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Paracelsus.—Warhafftige Beschreibunge der Wundartzney des hochgelehrten und Wolerfahrenen Medici Theophrasti Paracelsi, Der ander Theil. Darin mit sonderem fleisse auf vorgehende auss den originaln geschene Correction alle und jide Bůcher so zuvor unter dem Titul der Kleinen Wundartzney in unterschiedenen Tractaten aussgangen begrieffen werden. Allen Leib und Wundarten auch sonst jiden mǎnniglich zu hohen nutze in solche Ordnung gebracht: mit vielen Observationibus gemehret. Getrickt zu Basel durch Conradum Waldkirch, 1585.

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Gariopontus of Salerno.—Passionarius Galeni. Galeni Pergameni Passionarius a doctis medicis multem desideratus: aegritudines a capite ad pedes usque complectens: in quinque libros particulares una cum februm tractatu: et ni tibi mens hebes fuerit: eundem Galeni et non alterius et falso quidam credunt esse preprendes. Cum privilegio Regis francie in sequeti pagella posito. MDCCVI. (Earliest Salernian Work.)

Gilles de Corbeil.—Carmina de Urinarum. Padua, 1483. (The rare first edition.)

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Nicolaus Praepositus.—"Antidotarium." Mesue cum expositione mondini super canones universales: ac etiam cum expositione Cristophosi de honestis in antidotarium eiusdem. Additiones petri apponi. Additionis francisci de pedemontius. Antidotarium nicolai: cum expositione platearij. Tractatus quid pro quo. Tractatus de sinonimis. Libellus bulcasis sive seruatoris. Sopenidium armoratorium Saladini. Joannes de Sancto amando super antidotarium nicolai. Venice, 1508.

School of Salerno.—Regimen Sanatatis cum Expositione magistri arnaldi de Villa Nova Cathellano Noviter Impressus. Impressum Venetiis per Bernardinum Venetum de Vitalibus. Venice, ca., 1495.

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SURGEON GENERAL'S LIBRARY, WASHINGTON, D. C.:

Albusasis.—Liber Theoricae Necnon Practicae Alsaharavii in Prisco Arabum Medicorum conntu facile principis: qui vulgo Acanarius dicitur: iam summa diligentia et cura depromptus in lucem. Cum privilegio summi Pontificis et Imperatoris Romani. Auguste Windelicorum, 1519.

Avicennae.—Arabum Medicorum Principis. Ex Gerardi Cremonensis versione, et Andreae Alpigi Bellunensis Castigatione. A Joanne Costeo et Joanne Paulo Mongio Annotationibus iampridem illustratus. Nunc uero ab eodem Cosleo recognitus, et nouis alicui Observationibus adauctus. Imbus Principum Philosophorum, ac Medicorum consensus, dessensusque indicantur. Tomus Secundus. Venetiis apud Juntas, 1608.

Avicennae.—Arabum Medicorum principis, Canon Medicinae Quo Uniuersa Medendi scientia pulcherrima, et breui methodo planissima explicatur. Eiusdem De Viribus cordis, Remouendis nocuentis in regime sanitatis Syrupu acetoso Cantica. Venetiis. Industria ac sumptibus Iuntarum, 1608 apud Juntas, 1608.

Bartisch, George.—ΟΦΘΑΛΜΟΔΟΤΑΕΙΑ. Das ist Augendienst Neuer und wolwolgegrünter Bericht. George Bartisch von Königsbrück. Dresden, 1583.

Cocchio, Antonius.—Graecorum Chirurgici Libri. Sorani Unus de Fracturarum Signis Oribasii; Due de Fractis et de Luxatis E. Collectione Nicetae ab Antiquissimo et Optimo Codice Florentino Descripti Conversi atque Editi ab Antonio Cocchio. Anatomes Professore Publico et Antiquario Caesaris Florentiae Anno 1754. Ex Typographio Imperiali Prasadum Permisso.

Elluchasem Elimitar.—Tacuini Sanitatis Elluchasem Eli. Mithar Medici de Baldath. De sex Rebus non naturalibus, earum naturis, operationibus, et rectificationibus, publico omnium usui, conseruandae Sanitatis recens exarati. Alben Gnefit De Uirtutibus Medicinarum, et Ciborum. Jac. Alkein Dus De Rerum Gradibus. Argentorate apud Joannem Schottum Librarium, 1531.

Fabricius, Wilhelm.—Lithotomia Vesicae, That is An Accurate Description of the Stone in the Bladder. Shewing the Causes and Pathognomical Signs thereof, and chiefly of the Method whereby it is to be artificially taken out both of Man and Woman, by Section. Wherein Several Ways of Operation are described, and the Chirurgical Instruments lively delineated. Written first in High Dutch by Guilelmus Fabritius Hildanus, Physician in ordinarie to the most illustrious Prince, George Frederick, Marquesse of Baden, and Halberg etc. and the famous State of Berne. Afterwards augmented by the Author, and first translated into Latin by his Scholler and Communer Henricus Schobingerus Sanagalibensis and now done into English by N. C. for the general good of this Nation, and particular use of the Society of Chirurgicalians. With better Instruments than heretofore. London. Printed by John Norton and are to be sold by Wm. Harris in Coleman street, at the sign of the White Hinde, 1640.

Fulgineo, Gentilis de.—Gentilis de febris cum receptis suis positus ad capitula propria nouissime recognitus. Infinitisque erroribus castigatus. Addico eleganti repertorio nouiter ercogitato: quod omnes principes questiones mirifice complectitur. Venetiis, 1514. Glanvilla, Bartholomaeus de: "Liber de proprietatibus venum" Argentine, 1491. (Incomplete.)

Guidott, Thomas.—A Discourse of Bathe, and the Hot Waters There. Also some Enquiries into the Nature of the Water of St. Vincent's Rock near Bristol; and that of Castle-Cary. To which is added,

a Century of Observations, more fully declar the Natur, Property and Distinction of the Baths. With an Account of the Lives, and Character of the Physicians of Bathe. By Thomas Guidott, M.B. Physician there. London. Printed for Henry Brome et Gun in St. Paul's Church-Yard, the West end, 1676.

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Pellet.—Poetical Essay on Physick, inscribed to Dr. Pellet, President of the College and F.R.S. London. Printed for T. Cooper at the Globe in Pater-Noster Row.

Savonarola.—Practica Savonarolac de febribus. Canonica Michaelis Savonarola de febribus. De egestionibus. De pulsibus. De urinis. italia balneis. Tractatus sublimis de vermibus. Tabula absolutissima generalis et specialis super totum opus nunc impressa. Celaris Optati napolitani artium et medicine doctoris de hectica febre opus absolutum novum. Venetiis, 1517.

Taylor, John.—An Exact Account of Two Hundred and forty three different Diseases, to which the Eye and its Coverings are exposed. All Copied after Nature in the Order many Years given, in various Languages, viz: Latin, French, Italian, Spanish, Portuguese, etc. etc. In the Several Courts, and in Presence of Crowned Heads, Sovereign Princes, and in many of the most celebrated Academies, Universities, and Societies of the Learned, the Author the Chevalier John Taylor, Ophthalmiater, Pontifical, Imperial and Royal, viz. etc. etc. Qui Visum, Vitam Dat. Edinburgh. Printed by Robert Fleming, 1759.

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MRS. W. P. TARRANT, ST. LOUIS:

Maynwaring, E.—Vita Sana et Longa: The Preservation of Health and Prolongation of Life. Proposed and proved in the observance of Remarkable Precautions and daily practicable Rules Relating to Body and Mind, compendiously abstracted from the Institutions and Law of Nature. By E. Maynwaring, Dr. in Physick. "Non oceptimus brevem vitam, sed fecimus" (Senec.). London. Printed by F. D. Sold by Booksellers, 1670.

DR. H. TUHOLSKE, ST. LOUIS:

Monro, Alexander.—Doctors der Arznei gelahrheit Abbildungen und Beschreibungen der Schleimsäce des Menschlichen Körpers. Umgearbeitet und rechmhert herausgegeben von Johann Christias Roscnmüller, der Weltweisheit, Arznei und Wundarzneikunst Doctor, Prosector am Zergliederungs Saale in Leipzig, etc. Mit XV Kuppertafeln. Leipzig, bei Breitkopf und Hartel, 1799.

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THE JOURNAL

OF THE

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MARCH, 1915

EDITORIALS

OPTOMETRY BILL DEFEATED IN THE HOUSE OF REPRESENTATIVES— STATUS OF OTHER BILLS

The optometry bill, H. B. 762, was reported by the Judiciary Committee of the House of Representatives, of which Mr. Frank H. Farris is chairman, with the recommendation that it do not pass. Mr. Hicks of Jackson County, the author of the bill, moved that it be placed on the calendar for engrossment despite the committee's adverse report, but his motion failed to carry; the vote was 63 noes, 59 ayes. This action effectually disposes of the measure unless the Senate should pass it.

For the defeat of this obnoxious measure the county societies must be given the greatest credit. As soon as the provisions of the bill were made known to them the societies and members promptly sent protests to their representatives. The vote shows that the majority was convinced of its dangerous nature. The optometrists made use of Dr. John Green Jr.'s letter of 1912, which was written in support of a certain draft containing restrictive clauses, to make it appear that he favored H. B. 762. When he was informed of the activity by the optometrists Dr. Green at once called the attention of the legislators to the fact that the optometry bill introduced in 1913 was not identical with this draft and hence did not have his approval. Furthermore, he declared his strong opposition to H. B. 762.

The chiropractor bill, H. B. 586, was reported unfavorably by the Judiciary Committee without a public hearing. Numerous petitions and protests against its passage were sent in by our members. Notwithstanding the report of the committee the bill appears on the calendar and may be called up soon.

The chiropody bill, H. B. 838, was reported favorably by the Judiciary Committee. No public hearing was held so no opportunity to protest against its passage was offered the medical profession. However, the members have notified their representatives of its insidious character and we do not expect it to pass. The bill is loosely drawn and is not in any sense a necessary measure for safeguarding the physical welfare of the people.

There are several bills that deserve the support of the medical profession. Of these H. B. 227 provides for a survey of the state by the Board of Charities and Corrections to ascertain the status of the feeble-minded and epileptic with a view to enlarging the home at Marshall. At present this institution is overcrowded and hundreds of these dependents are denied proper care and treatment.

H. B. 250 creates a commission for the blind to assist these unfortunates in earning a livelihood, to find employment for them, to ameliorate their condition, to encourage capable blind persons in the pursuit of useful labor and to establish measures for the prevention of blindness.

H. B. 785 provides for the purchase or lease of land at Mt. Vernon by the State Sanatorium for Tuberculosis to be used as a camp or farm for the patients.

Senate bill 432 provides for the physical inspection of schoolchildren.

Senate bill 485 regulates the sale of carbolic acid and bichlorid of mercury for the purpose of reducing the number of suicides.

Senate bill 585 provides for the preparation and manufacture at the State University of diphtheria antitoxin, tuberculin and other biotherapeutic products to be sold to pharmacists and physicians at a price not to exceed 10 per cent. of their cost of production.

Too much cannot be said in praising the physician members of the General Assembly for their constant cooperation with us on all matters of interest to the organized profession or affecting the public health. They have been equal to the task and have proved their efficiency in all directions as lawmakers of sound judgment and progressive ideas.

MEDICAL LABORATORY AT ST. JOSEPH

THE FIRST ENDEAVOR OF THE MISSOURI FOUNDATION FOR HEALTH CONSERVATION

The newly organized society for the conservation of the health of the people of St. Joseph and vicinity, the Missouri Foundation for Health Conservation, has made such rapid progress that the establishment of its first endeavor, the creation of a medical laboratory at St. Joseph, presents excellent prospects of early consummation.

As described in the announcement of the Foundation, the medical laboratory will be an invaluable aid to the people by protecting the community from many epidemics and enable the medical practitioners to control outbreaks of contagious diseases. The organizers of the Foundation have exhibited a true conception of the relation of the laboratory to the practice of medicine and the control of disease. They are

to be commended for concentrating their early efforts upon the establishment of a laboratory securely financed. Contributions for this purpose will be invested, not given away, for the donation will insure not only the health and vigor of the donor, but also of every person in the community. When people learn that the health of a community is an index of its business vigor as well as of its sanitary condition the donations to the cause of preventive medicine will be more frequent and more liberal than they have been in the past.

The intelligent and well-directed movement for the protection of the public health contemplated by the Foundation will meet only the warm support of the organized medical profession and of all persons who are cognizant of the great need of light and knowledge on health topics among the people.

ANDREAS VESALIUS

The quarter centenary of the birth of Andreas Vesalius, December 31, 1514, was celebrated in St. Louis by a loan exhibit of books, pamphlets, portraits, pictures and other objects illustrating the history of medicine.

The spacious, well lighted and elegantly appointed home of the Missouri Historical Society in the magnificent, fire-proof Jefferson Memorial in Forest Park, afforded splendid accommodations for the exhibit. The St. Louis Medical History Club, which supervised the assembling of the collection, deserves the highest commendation for the zeal and enthusiasm which its members manifested in gathering together an unparalleled collection of the works of so many classic writers. On all sides were heard expressions of the greatest appreciation for the opportunity to examine the rare and interesting volumes and pictures which constituted the collection.

Not the least attractive feature were the contributions of individuals and institutions from outside of our city. The rare Salernitana of Dr. E. C. Streeter of Boston, the early American inaugural theses and lecture cards lent by Dr. Wm. Pepper of the University of Pennsylvania, the treasures of the Crerar Library of Chicago and of the Surgeon-General's Library of Washington held the attention of the visitors and gratified the most enthusiastic bibliophiles. Rush Medical College of Chicago sent portraits of its founders and many pictures of its early buildings showing the gradual development of the school from the log cabin medical college to the present modern laboratories and hospitals.

St. Louis University presented an unusually extensive collection of autograph letters from the medical men who constituted the first faculty of the first medical college in St. Louis.

The incunabula and early works on medicine and surgery displayed by the medical and dental schools of Washington University attracted general attention whilst the medicobotanical masters offered for inspection by the Missouri (Shaw's) Botanical Garden had a great fascination for the modern doctor.

In this number of *THE JOURNAL* we publish a list of the books and pamphlets which were exhibited. We regret that space does not permit the enumeration of the portraits, photographs and pictures. A glance will show how varied, interesting and instructive the collection was. The medical history of St. Louis could easily be written from the records of the physicians whose portraits graced the walls—only a few of the strong men were absent.

The press comments were appreciative and encouraging. The medical profession has by this exhibit been placed in a new and better light before the public. We congratulate the History Club. It can record a great achievement.

THE ST. JOSEPH SESSION

May 10, 11, 12, 1915

In soliciting papers for the St. Joseph meeting the program committee has adopted the rule established by the previous committee and will give preference to those who have not been on the program for the past two sessions. The committee has sent an invitation to every County Society to appoint a member to read a paper. While the response to this invitation has been gratifying, there still remains space for several other papers from County Societies and the committee urges those who have not made appointments to do so at once.

An innovation in public health work during the session is the cooperation of the churches in St. Joseph on "Health Sunday," May 9. On that day our members will occupy the pulpits of the churches and deliver lectures on preventive medicine.

Monday, May 10, will be devoted to the sessions of the House of Delegates and it is intended to complete all business of the Association on that day. The scientific sessions will begin Tuesday morning, May 11, and continue without interruption until Wednesday night. This arrangement will eliminate all conflict between meetings of the House of Delegates and the scientific sessions.

All meetings will be held in the Scottish Rites Cathedral. The commercial exhibits and the registration bureau will be located in this building and a large room separated from the sessions hall has been assigned to them.

Make your arrangements to attend this session and bring your pocket card.

MCDONALD COUNTY MEDICAL SOCIETY ORGANIZED

On January 15, Dr. R. L. Wills, Councilor of the 29th district, organized McDonald County Medical Society with seven members. This brings into the organization all the counties in the 29th district and gives all reputable physicians in McDonald County an opportunity to become affiliated with the organized medical profession. The organization meeting was held at Anderson. Regular meetings will be held every other month.

We are glad to welcome this new society to the ranks of organized medicine and shall watch its growth with much interest.

WHERE TO ADDRESS INTERNAL REVENUE COLLECTORS TO REGISTER UNDER HARRISON ANTINARCOTIC LAW

On another page¹ we publish the list of counties in the United States internal revenue districts in Missouri. Physicians who have not yet registered should do so at once. Consult the list and write to the collector of your district so you can obtain your registration number.

WINE OF CARDUI

No doubt Missouri physicians know that on July 18 and Dec. 5, 1914, *The Journal of the American Medical Association* published in its Propaganda for Reform department articles exposing the fraudulency of Wine of Cardui. This "Woman's Tonic" is manufactured by the Chattanooga Medicine Company and contains 20 per cent. alcohol. Subsequent to the appearance of the article of July 18, the Chattanooga Medicine Company and its chief owner brought suits against the American Medical Association and the editor of *The Journal* aggregating \$300,000. Since that time, the same concern has entered suit for \$25,000 against Dr. Oscar Dowling, President of the Louisiana State Board of Health, because an educational placard dealing with Wine of Cardui was exhibited in the Health Exhibit Train sent out by the State of Louisiana.

We are led to believe that strenuous efforts are being made to obtain the physicians' endorsements of Wine of Cardui by soliciting testimonials as to its "efficacy" and alleged "harmlessness." From letters published in *The Journal*, it seems that representatives—male and female—of the manufacturers are visiting physicians in different districts and interviewing

them. In view of this it seems well worth while to quote from an article that appeared in the February 27 issue of *The Journal of the American Medical Association*:

"That the Chattanooga Medicine Company is very busy throughout the South attempting to get physicians to express themselves favorably to the Wine of Cardui nostrum, is quite evident. We give a few letters that have been received in this connection. This from a physician in Missouri:

"A gentleman came into my office and after having been seated, inquired if I had ever used Wine of Cardui in my practice. I replied that I had not. He then asked me if, as a druggist, I had noted good from its sale and use in the way of saving doctors' bills for suffering ladies. I told him I believed every word *The Journal* had published about Wine of Cardui, and he said that his company would be able to show that it had done a wonderful lot of good and that later I would find the Association facing a court order and injunction, and they courted investigation; in fact, insisted upon having justice in this matter. I dismissed him with the remark that I believed Wine of Cardui one of several colossal frauds foisted on suffering and trustful humanity and that I wanted to see justice prevail. He bade me good day, remarking, 'Doctor, you may later have reason to know that you have been wrongly informed.' Had I acted differently, I believe I could have learned more, but I could hardly contain myself. I believe they are making a systematic hunt for anything that will sustain their suit."

"And this from a physician in Illinois:

"I wish to mention that the Chattanooga Medicine Company is dubiously soliciting signatures to prove that their preparation is not sold as a beverage. Agents wanted me to sign that I did not know that Wine of Cardui was sold as a beverage. I refused."

"This from a physician in Virginia:

"I wish to commend your work in exposing 'patent medicine' frauds, and I am particularly interested in the Wine of Cardui suit. A few days since a winsome young woman (a Miss Ervin) from Chattanooga came through this section soliciting the profession for testimonials showing the merits of Wine of Cardui. Such 'nerve' is hard to imagine. She visited most of the men in this section, but I know of but one from whom she obtained a testimonial. Later I learned that the young woman is a lawyer and that such testimonials are to be introduced as evidence in the suit of Wine of Cardui against the American Medical Association."

"While this is from a physician in Arkansas:

"Yesterday I was told by a salesman for the Chattanooga Medicine Company that they were going to have five thousand doctors' testimonials in their suit against you regarding the merits of Wine of Cardui. He said all these doctors would be graduates of reputable medical colleges, but, of course, failed to state how they were going about getting these testimonials."

In connection with the suit against Dr. Dowling, the following from the *New Orleans Item*, Feb. 18, 1915, is of interest. It appears under the caption "Health Board Hits at Wine of Cardui; Backs Dowling in Holding It Pernicious; War on Others," and reads:

Branding Wine of Cardui as being "among the most fraudulent" of "nostrums pernicious and baneful in effect" the State Board of Health Thursday afternoon endorsed by resolution the campaign of Dr. Oscar Dowling, president of the board, against it and other patent medicines.

"These nostrums are pernicious and baneful in effect," says the resolution in part. "The enormous profits accruing from the sale of so-called medicines are derived largely from the income of the very poor and the unfortunate. Among the most fraudulent of

1. See page 116.

these preparations is Wine of Cardui, manufactured and sold by the Chattanooga Medicine Company, Chattanooga, Tenn., and St. Louis, Mo., as proved by analysis in the laboratory of the state board of health, the ingredients of this nostrum being alcohol and vegetable materials practically therapeutically inert.

"Therefore be it resolved, That the State Board of Health unanimously approves and supports the campaign against harmful patent and proprietary nostrums now being prosecuted by Dr. Oscar Dowling, the executive officer of this board.

"That he is authorized to push the campaign to the full extent of the law with the hope of destroying the baneful influence of the owners and manufacturers of the many noxious articles now offered to the public.

"That the exhibit placed on the Louisiana state board of health exhibit car which illustrates the fraudulent claims of Wine of Cardui and other patent preparations, has our full approval and commendation.

"That the suit by the Chattanooga Medicine Company, Chattanooga, Tenn., brought against the president of the Louisiana State Board of Health as an individual, should have been filed against the president and executive officer of the State Board of Health and in the prosecution of this suit the Louisiana State Board of Health will give Oscar Dowling, its president and executive officer, cordial support and assistance to the limit of its power and resources.

"That we welcome the opportunity to assist in this suit, the outcome of which we are confident will be a death blow to the popular use of Wine of Cardui and all other fraudulent patent nostrums."

OBITUARY

H. C. GARNETT, M.D.

Dr. H. C. Garnett, a graduate of Louisville Medical University, died at his home at Keytesville, February 16, aged 75. He came to Missouri from Kentucky in 1866.

FRANCIS A. TAPPAN, M.D.

Dr. F. A. Tappan of Kansas City, graduate of Kansas City Medical College 1871, died at his home February 2, aged 71. He retired from practice several years ago.

IRA A. COTTINGHAM, M.D.

Dr. Ira A. Cottingham of Carthage died suddenly January 19 from extension of a middle ear infection, aged 55. He was a graduate of the Eclectic Medical College of Cincinnati, Ohio, 1885, and of the St. Louis College of Physicians and Surgeons, 1890. For a number of years he practiced at Aurora, Mo., and served three terms as mayor of that city. During the past three years he practiced in Carthage where he was respected and honored by all who knew him. He was a member of the Jasper County Medical Society and the Missouri State Medical Association.

LUDWIG P. POLLMANN, M.D.

Dr. L. P. Pollmann died January 23, 1915, at his residence, 2002 St. Louis Avenue. He was born in the province of Westphalia, Germany, September 13, 1847. His father was a provincial teacher in a school of his native city, and his careful training enabled the son to enter the gymnasium at an early age. Having in due time absorbed the curriculum of the institution, young Pollmann graduated with honors, and soon after came to America, to St. Louis. In 1868, under the preceptorship of the late Prof. Ch. V. Curtman, he began the study of medicine in the old Humboldt Medical College. When this institution closed its doors, he, with the majority of the fellow students, followed the dean, Dr. Hammer, to the Missouri Medical College, where young Pollmann graduated in the spring of 1870. Then came the struggle for existence, the lot of every young practitioner. During the small-pox epidemic of 1872, Dr. Pollmann was in charge of the "Small-pox Boat." In a few years he gained an extensive practice, the last fifteen years of which were devoted almost exclusively to surgical work.

His studious habits, his extensive reading and retentive memory enabled him to be always up to date. He leaves one of the most complete private surgical libraries in the country. His success in practice was due to his conservative work and the kindness and consideration shown to all his patients, especially to the poorer class, for he ever tempered his charge to their means in addition to the more strictly charity cases that stand to his credit.

Among his charities was the prompt and efficient treatment of all surgical cases among the old people in the Home for the Aged and the Little Sisters of the Poor from its very foundation.

He married Miss Matilda Albietz and their only child, Dr. Walter H. Pollmann, has been associated with his father in his practice since his graduation. Dr. Pollmann became an American citizen as soon as the law permitted, but he remained intensely German all his life. He was a charter member of the Verein Deutscher Artze and of the Alma Mater. He was a member of the St. Louis Medical Society, the Missouri State Medical Association and a Fellow of the American Medical Association. He was prominent also in lodge circles, being Past Eminent Commander of the St. Alderman K. T.

The papers which he read before the various societies were prepared with great care and were remarkable, not only for their scientific interest, but also for their elegance of composition in the choice language in which his ideas were expressed so that it was a rare treat to hear him.

Dr. Pollmann was passionately fond of hunting; whenever he sought recreation from the cases and worry of practice, it was sure to be in the field. As in everything else he entered into the sport with heart and soul, but ever in the sportsman-like spirit, not looking for a big bag, but kindly enjoying the exercise in the open and the excitement of the chase.

And now he is gone: To his bereaved family, it may have been some consolation to know the high regard in which he was held by the number who came to cast a last tearful look upon their benefactor. With those who were fortunate enough to be among his most intimate friends his memory will linger affectionately while there is a breath of life left.—F. J. V. KREBS in *Bulletin St. Louis Medical Society*.

NEWS NOTES

DR. ERNEST LOWREY of Excelsior Springs was reported very ill on February 16.

THE home of Dr. E. A. Albers of Sedalia was robbed on February 17, and valuables to the amount of \$50 were stolen.

DR. F. R. ANTHONY of Maryville left for New York February 19, where he will study in postgraduate schools for a month.

DR. VINCIL O. WILLIAMS of the Vernon Sanitarium, Nevada, Mo., was married to Mrs. Ann Harding Wight at Kansas City, January 15.

THE spring and summer courses for physicians to be given at Washington University Medical School, St. Louis, will begin March 15.

DR. R. P. C. WILSON, Superintendent of the Colony for the Feeble-Minded at Marshall, was married on February 17 to Miss Helen Taylor Arehart of Washington Court House, Ohio.

DR. AUSTIN B. ALLEN of Maryville, President Nodaway County Medical Society and a Fellow of the American Medical Association, celebrated his sixty-fifth birthday February 12.

DRS. E. L. OPIE, H. W. Loeb, George Dock, C. H. Neilson and M. G. Seelig, all of St. Louis, attended the annual meeting of the Association of American Medical Colleges in Chicago, February 16 and 17.

DR. WALTER S. SUTTON of Kansas City, formerly attending surgeon at Rosedale Hospital, has accepted a position with the Red Cross Service in France and sailed from New York February 10.

THE *Modern Hospital* has purchased *The International Hospital Record*, which has been published at Detroit for eighteen years. It will be merged with the *Modern Hospital* beginning with the March issue.

THE friends of Dr. T. J. Rigdon of Kennett, Secretary of the Dunklin County Medical Society, will be grieved to learn of the death from diphtheria of his little granddaughter, Ella Nadine Fisher, 4½ years old.

THE summer school of the Medical Department of the St. Louis University will begin its session on May 18 and continue until June 26. Registration begins May 15. Dr. D. L. Shoemaker is director of the summer school.

"LENOIR," the old family driving horse of the dean of the medical profession of Missouri, Dr. A. W. McAlester, Columbia, was chloroformed and gently put to sleep by its owner on February 13 after thirty years of faithful service.

DR. GEORGE IVES of St. Louis, representing the Speakers Bureau of the American Medical Association, delivered a public address at the Illinois Farmers' Institute at Harrisburg, Ill., February 24. He spoke on the subject of hygiene and the medical inspection of school children.

DR. N. P. WOOD of Independence delivered a lecture on the health of school children and school hygiene at a public meeting in Odessa, February 9. The meeting was held under the auspices of the Lafayette County Medical Society and the Speakers Bureau of the American Medical Association.

DR. FRANKLIN E. MURPHY of Kansas City, Councilor of the 13th District, was married to Miss Cordelia Antoinette Brown, at Kansas City, February 16. They departed on a wedding tour to the Bahamas and on their return March 20 will be at home at 1100 Prospect Avenue, Kansas City.

A RECENT occurrence in Kansas City exemplifies the far reaching effect of the Harrison Anti-Narcotic law when an effort by the Health Board to punish a physician for prescribing morphin to habitues failed after the arrest of the doctor, because the city ordinances provided punishment for the sale of cocain only. Even in the absence of a city and state law governing the sale of habit forming drugs the federal law will operate to limit such practices after March 1.

DR. GEORGE M. SMITH, Associate Professor of Pathology in Washington University, has accepted the position of Director of the Barnard (Free) Skin and Cancer Hospital, St. Louis, and will be in charge of the Research Department beginning April 1, next. The endowment fund has been largely increased so as to almost reach the intended amount of \$400,000.

DR. HARVEY W. WILEY, former head of the United States Bureau of Chemistry and champion pure food advocate, will deliver a lecture on mouth hygiene at Kansas City, March 8. Dr. Wiley is President of the National Mouth Hygiene Association. His lecture will be delivered under the auspices of the Kansas City auxiliary of the National Mouth Hygiene Association.

DR. WM. F. KIER of St. Louis, a member of the St. Louis Medical Society, was assaulted in his office on February 5 by two men and robbed of two diamonds valued at \$1,500. The two men entered the office as if to consult the doctor and struck him a blow on the head while his back was turned, rendering him unconscious. The barking of a small terrier and the approach of a maid from an adjoining room frightened the men away before they had time to rob a safe in the office containing valuables. Several suspects have been arrested but none has been convicted.

THE American Association of Pathologists and Bacteriologists of which Dr. Leo Loeb of St. Louis is President, will meet in St. Louis, April 2 and 3. The meetings will be held in the Pathological Department of Washington University Medical School and in the Library of the St. Louis University. The annual dinner will be held at the University Club, April 2. Preceding these meeting on April 1 will be held the annual meeting of the American Association for Cancer Research and the annual meeting of the International Association of Medical Museums. These meetings will be held in the laboratories of the Washington University Medical School.

THE members of the Howell County Medical Society recently decided at a regular meeting that they would discontinue their professional cards in the newspapers. Commenting on the action the Howell County *Gazette* says: "The regular physician detests an 'advertising doctor.' There have been physicians in West Plains who used newspaper space very liberally in telling about the cures they made and seeking new patients by these methods. These doctors are called 'quacks' by the more modest physicians.

In the larger cities there are hundreds of these 'quacks,' but few are located in the smaller towns. They don't stay very long, and the old doctor, who keeps on in the even tenor of his way, continues to practice and outlives them all."

THE Public Welfare Association, Springfield, Mo., conducted a health week February 8 to 13. Dr. A. J. Lanza, passed assistant surgeon of the United States Public Health Service, spent several days at Springfield lecturing on health topics and directing measures for improving the hygienic and sanitary conditions of the city. His principal lecture was on the control and prevention of typhoid. Dr. Mazyck P. Ravenel of the State University delivered several lectures during the week on the medical inspection of schools. Dr. W. P. Patterson of Springfield also addressed the people on medical school inspection. Dr. Walter McNab Miller, secretary of the Missouri Antituberculosis Association, called attention to the enormous loss from tuberculosis and delivered several lectures. Dr. E. J. Goodwin, secretary of the Missouri State Medical Association, St. Louis, delivered an address on the importance of an efficient board of health. A health exhibit was maintained during the week where illustrations of means for controlling disease were demonstrated. Mr. R. H. Leavell had charge of the undertaking and the mayor of the city issued a proclamation dedicating the week as "Health Week." About 5,000 people attended the various meetings.

MEMBERSHIP CHANGES, FEBRUARY

NEW MEMBERS

John P. Beeson, Southwest City.
W. S. Best, Anderson.
Manuel E. Bradley, Windsor.
S. Bernice Buck, Anderson.
F. M. Douglass, Clinton.
Frank James, Sheldon.
Joseph W. Kimberlin, Kansas City.
John W. Ramsey, Tilsit.
George V. Poynor, Southwest City.
Oakley St. John, Pineville.

CHANGE OF ADDRESSES

W. E. Allbright, Willard to La Russell, Mo.
T. J. Beattie, 504 Shukert Bldg. to 1203 Waldheim Bldg., Kansas City.
Clarence Capell, 1208 Wyandotte to 824 Rialto Bldg., Kansas City.
G. W. Davis, 840 Reserve Bank Bldg. to 300 Argyle Bldg., Kansas City.
F. W. Drew, Ethel, to 4960 Fountain Ave., St. Louis.

Thos. L. Brunk, 2727 N. 13th St., Kansas City to Camden.

Martin F. Engman, Humboldt Bldg. to Wall Bldg., St. Louis.

F. H. Fulton, Plattsburg, to 21st and Troost, Kansas City.

Konrad Frank, 501 N. Whittier St. to 654 Century Bldg., St. Louis.

J. K. Graham, Ballinger Block to 2608 Pacific St., St. Joseph.

Robert G. Hall, New Bloomfield to Holts Summit.

A. H. Hamel, 3510 Arsenal St. to 3455a Pestalozzi St., St. Louis.

John D. Hayward, 5455 Page Ave. to 5092 Kensington Ave., St. Louis.

Henry J. Helwig, 3654 Russell to 4538 Washington Ave., St. Louis.

J. A. Hockaday, Jr., Camden to Plattsburg. H. S. Hughes, Humboldt Bldg. to 414 Wall Bldg., St. Louis.

M. R. Horwitz, 302 Century Bldg. to 306 Humboldt Bldg., St. Louis.

Chas. E. Hyndman, Maryland Ave. to Humboldt Bldg., St. Louis.

Gustav A. Keehn, St. Louis to 705 Hickmann Ave., Columbia.

James Lewald, 5130 Wells Ave. to City Sanitarium, St. Louis.

Elmer A. Leisure, Stotesbury, Mo. to Fairlands, Okla.

Samuel T. Lipsitz, 1019 N. 14th St. to Metropolitan Bldg., St. Louis.

Wm. H. Mook, Humboldt Bldg. to Wall Bldg., St. Louis.

M. R. Noland, Holliday to 401 Reed St., Moberly.

M. W. Pickard, 1036 Union Ave. to 603 Bryant Bldg., Kansas City.

F. M. Postlethwaite, North Kansas City to Glenn Elder, Kan.

Hugo Reim, 2025 S. Jefferson Ave. to 416 Metropolitan Bldg., St. Louis.

H. Shepherd, Wright City to Moscow Mills.

John C. Salter, Humboldt Bldg. to Chemical Bldg., St. Louis.

Wm. C. Stewart, 2603 Washington to 1128a Hamilton Ave., St. Louis.

N. I. Stebbins, St. Louis to Clinton.

Martin Van Raalte, 2827 Whittier to 1730 Franklin Ave., St. Louis.

J. R. Van Atta, 3515 Prospect Ave. to 743 Lathrop Bldg., Kansas City.

R. E. Wobus, 1105 Salisbury St. to 2406 Kingshighway, St. Louis.

George M. Kesl, Port Huron, Mich.

Sherwood Moore, Kinchassa, Congo Belge, West Africa.

Wm. C. O'Neal, LaGrange.

Clifford Taylor, Brownington.

Wm. E. Taylor, Ohio.

DECEASED

Charles W. Patton, Mooresville.

Ludwig P. Pollmann, St. Louis.

CORRESPONDENCE

PILOT GROVE, MO., Feb. 17, 1915.

To the Editor:—In the report of the discussions at the meeting of the Henry County Medical Society, January 20, I am quoted as using quinin and Norwood's tincture in a case of puerperal streptococcemia.

I beg to say the report is somewhat in error. The treatment was essentially supportive—a nourishing diet and normal saline per drop method and strychnin. We also used a 2 per cent. solution of chemically pure magnesium sulphate intravenously, as advised by Harrar in the *American Journal of Obstetrics*, November, 1913. We gave quinin for a few days only.

Toward the end of the third week the temperature was almost normal for several hours each day. The appetite showed marked improvement and the patient was resting well. On the twenty-eighth day she developed a hypostatic pneumonia which caused her death a week later. I kept the head of the bed elevated throughout the attack.

May I ask you to kindly publish this correction in your next issue?

T. B. TODD, M.D.

MISCELLANY

OPPOSING OPTOMETRY

Resolution adopted by the St. Louis Medical Society, Feb. 6, 1915:

WHEREAS, The passage of Senate Bill 416 and House Bill 762, known as the optometry bill, would license persons who have no knowledge of the cause and treatment of diseases of the body to fit glasses, ostensibly for no other purpose than to correct errors of refraction, but would in reality empower such persons to prescribe and fit glasses for the relief and cure of diseases and symptoms of disease, not only of the eye, but of other parts of the body, upon the pretext of correcting errors of vision; and,

WHEREAS, Defective vision is often merely a symptom of serious disease of other organs of the body and can be interpreted as such only by licensed physicians who have taken the prescribed course of medicine in a reputable medical college and complied with the statutes governing the practice of medicine, therefore be it

DROPPED OR RESIGNED

Richard L. Barrington, St. Louis.

Wm. E. Bell, Osceola.

B. J. Cline, Poplar Bluff.

Walter L. Frank, Jacksonville, Ill.

Albert A. Gebhardt, St. Louis.

Resolved, That the St. Louis Medical Society protests against the passage of Senate Bill 416 and House Bill 762, and be it further

Resolved, That we petition the Senators and Representatives from St. Louis to vote against the passage of these bills and to use their influence to prevent their passage.

Resolution adopted by the Ophthalmic Section, St. Louis Medical Society, Feb. 3, 1915:

The Ophthalmic Section of the St. Louis Medical Society is opposed to the passage of Senate Bill 416 and House Bill 762, "An Act to Define and Regulate the Practice of Optometry." This bill is not essentially different from the bill introduced by optometrists at the last session of the General Assembly and which was defeated. If enacted into law it will legalize persons to practice medicine who have no knowledge of the science and are therefore incapable of recognizing diseases of the eye and their relation to diseases of other organs of the body. We appeal to you to guard the health interests of the people of your district and oppose this attempt to have the state place the seal of approval upon unqualified persons to practice a branch of medicine without taking a medical course as now prescribed by law.

This resolution to be spread on the minutes and a copy sent to every senator and representative from St. Louis and a copy to the state JOURNAL and to the *Weekly Bulletin* for publication.

On motion of Dr. John Green, Jr., the resolution was unanimously adopted.

THE CHIROPODY BILL

House Bill No. 838, Forty-Eighth General Assembly, 1915. Introduced by Mr. Trieseler of St. Louis (by request). Read first time February 5, 1915, and 500 copies ordered printed. An act to regulate the practice of chiropody, to license chiropodists and to punish all persons violating the provisions thereof.

Be it enacted by the General Assembly of the State of Missouri, as follows:

1. That the state board of medical examiners as established by an act entitled An act to regulate the practice of medicine and surgery, to license physicians and surgeons and to punish persons violating the provisions thereof approved . . . and the general supplements thereto and acts amendatory thereof, shall in addition to the examinations therein provided for, hold meetings for the examinations of all applicants under this act for a license to practice chiropody in this state on the third Tuesday of June and October of said year, and at such other times and places as the board may deem expedient, and said board shall keep an official record of all its meetings, and an official register of all applicants for a license to practice chiropody in this state; said register shall show the name, age, nativity, last and intended place of residence of each candidate, the time he or she has spent in obtaining a competent common school education, and in chiropody in or out of a school teaching chiropody, and the names and location of all chiropody schools or examining and licensing boards which have granted said applicant any degree or certificate of attendance upon lectures chiropody or state examinations; said register shall also show whether said applicant was examined, licensed or rejected under this act, and said register shall be prima facie evidence of all matters therein contained.

2. All persons hereafter desiring to commence the practice of chiropody in this state shall apply to said board for a license so to do, applicants for examination shall present to the secretary of said board at least ten days before the commencement of the examination at which he or she is to be examined, a writ-

ten application on a form or forms provided by said board, together with satisfactory proof that the applicant is more than twenty-one years of age, is of a good moral character, that he or she has received a preliminary education equal to that furnished by the common schools of this state; has received a diploma conferring the degree of (MCp) master chiropodists from some legally incorporated school of chiropody (which in the opinion of said board was in good standing at the time of issuing said diploma) in the United States, or a diploma conferring the full right to practice chiropody in some foreign country; or shall present the written recommendation of at least five licensed chiropodists of this state certifying that he or she is qualified for such examination; any member of the board may inquire of any applicant for examination concerning his or her qualification, and may take testimony of any one in regard thereto, under oath which he is hereby empowered to administer.

FEE PAID BY APPLICANT

Each applicant shall pay to the secretary of said board a fee of twenty dollars (\$20) at the time of filing said application and present himself or herself for examination at the first regular meeting of the board after such application; such fee shall not be refunded, unless from sickness or other good cause appearing to the satisfaction of the board, such applicant was prevented from attending and completing such examination; further or subsequent examinations under such application may be given to applicants, at the discretion of the board, without payment of an additional fee.

NATURE OF EXAMINATION

3. All examinations shall be written in the English language, but the board, in its discretion may use supplementary oral examinations, either of the whole class or of individuals; namely, anatomy and physiology of the feet, therapeutics, chemistry, minor surgery and bandaging pertaining to the ailments of the feet, not including however the amputation of such members, or of any part thereof; all examinations shall be both scientific and practical, and of sufficient severity to test the candidates fitness to practice chiropody; if said examination is satisfactory, the board shall issue a license, entitling the applicant to practice chiropody in this state; said application and examination papers shall be deposited in the state library in the capitol building and they shall be prima facie evidence of all matters therein contained; all licenses shall be signed by the president and secretary of the board and shall be attested by the seal thereof.

REFUSAL OR REVOCATION OF LICENSE

4. The board may refuse to grant or may revoke a license for the following causes, to-wit: chronic and persistent inebriety, conviction of crime involving moral turpitude, or where any person shall present to this board any diploma, license or certificate that shall have been illegally obtained, or that shall have been signed or issued unlawfully or under fraudulent representations; in complaint for violating the provisions of this section, the accused person shall be furnished with a copy of the complaint and given a hearing before said board in person or by attorney; and any person; after such refusal or revocation of license, who shall attempt to continue the practice of chiropody, shall be subject to the penalties herein-after prescribed.

5. The person so receiving said license shall file the same or a certified copy thereof, with the clerk of the county in which he or she resides and said clerk shall file said certificate or copy thereof and enter a memorandum thereof, giving the date of said license with the name of person to whom the same is issued,

and the date of said filing, in a book to be kept by them for that purpose, and for which registry the said county clerk shall be entitled to demand and receive from each person registering the sum of one dollar; in case the person so licensed shall move into another county of this state, he or she shall procure a certified copy of such registration, and then file the same with the clerk of the county to which he or she shall remove, and the said clerk shall file and enter the same with like effect as if the same was an original license, for which registry the said clerk shall be entitled to demand and receive the sum of one dollar; and each clerk in the counties of this state shall, upon the last day of November of each year, furnish to the secretary of said board a list of all the certificates of this board filed in his office during the previous year, and upon notice to him of the change of location or death of the person so licensed, or of the revocation of said license, the county clerk shall enter at the appropriate place in the records so kept by him a memorandum of said fact, and said memoranda shall be furnished to the secretary of this board in the annual report above required.

6. Any person who, at the time of the passage of this act, shall actually be engaged in the practice of chiropody in this state, and who shall present to the state board an affidavit to that effect within three months after the passage of this act shall be entitled to receive from said board a license to practice chiropody, upon payment to said board of a fee of five dollars; each person so licensed shall cause such license to be filed with the clerk of the county in which he or she resides as provided in the fifth section of this act.

7. Nothing in this act shall be construed or prohibit a duly licensed physician from treating diseases or ailments of the feet, or a lawfully registered chiropodist residing in another state meeting registered chiropodists of this state in consultation, or to any legally qualified chiropodist of this state temporarily during the latter's absence therefrom upon the written request of said registered chiropodist of this state.

8. Any person practicing or holding himself or herself out to the public as practicing chiropody, not being at the time of said practice or holding out legally licensed to practice as such in this state, shall be guilty of a misdemeanor and punishable upon a first conviction of a first offense by a fine not less than fifty dollars, and, upon a conviction of a subsequent offense by a fine of not less than one hundred dollars, or by imprisonment of not less than two months, or by both fine and imprisonment.

9. Any chiropodist who uses the title of doctor and is not legally entitled to same by the possession of an M.D. degree shall upon conviction be punished by a fine of not less than fifty or more than one hundred dollars, and if the offense be repeated shall be punished by revocation of license as a chiropodist and in addition shall be subject to a fine of not less than fifty nor more than two hundred dollars.

10. Any person for failure to comply with each and every provision and condition contained in the fourth, fifth and sixth sections of this act, shall be guilty of a misdemeanor and upon every conviction thereof shall be punished with a fine of not less than fifty dollars or by two months' imprisonment, or by both fine and imprisonment.

11. Any person shall be guilty of a misdemeanor and upon every conviction thereof shall be punished with a fine of not less than fifty dollars, or more than two hundred dollars, or by imprisonment for not less than thirty days or not more than six months, or by both fine and imprisonment or on repetition of the offense by revocation of license, who

1. Shall sell or barter, or offer to sell or barter, any diploma or document conferring or purporting to confer any chiropodist's degree, or any certificate or

transcript, made or purporting to be made, pursuant to the laws regulating the license and registration of chiropodists; or

2. Shall purchase or procure by barter any such diploma, certificate or transcript with intent that the same shall be used as evidence of the holders qualification to practice chiropody, or in fraud of the laws regulating such practice, or

3. Shall with fraudulent intent, alter in a material regard such diploma, certificate or transcript; or

4. Shall use or attempt to use any such diploma, certificate or transcript which has been purchased, fraudulently issued, counterfeited or materially altered either as a license or color of license to practice chiropody, or in order to procure registration as a chiropodist; or

5. Shall assume any title or append any letters to his or her name with the intent to represent falsely that he or she has received a chiropodist degree of license; or

6. Shall practice chiropody under a false or assumed name; or

7. Any person who, in any affidavit or examination required of an applicant for examination license or registration under the laws regulating the practice of chiropody, shall willfully make a false statement in a material regard, shall be guilty of a high misdemeanor, and punishable upon conviction thereof by a fine not exceeding two hundred dollars, or by imprisonment at hard labor not exceeding two years, or by both at the discretion of the court.

8. Shall unlawfully as a chiropodist treat any person for anything outside the field of chiropody, the field of chiropody to consist of the treatment of the ailments of the feet, where there is no major surgery involved. All fines, penalties or forfeitures imposed or collected for the violation of any of the foregoing provisions of this act, shall be paid as follows: one-half thereof to the county collector of the county in which the prosecution is had, and one-half to the secretary as hereinafter directed; and it shall be the duty of the county collector of each county upon receipt of him of any such fine, penalty or forfeiture, to forthwith pay over to the secretary of this board, one-half of the same; said board or any member or officer thereof may prefer a complaint for a violation of the law regulating the practice of chiropody before any court, tribunal or magistrate having jurisdiction and may by its officers, counsel and agents aid in presenting the facts or law before said court, magistrate or tribunal in any proceeding taken thereon; and it shall be the duty of the prosecutor of the pleas of the counties in this state to prosecute all violations of the aforesaid provisions of this act.

In addition to all of the fines, forfeitures and penalties hereinabove provided for, it shall be lawful for the said board to institute proceedings in any court of competent jurisdictions against any person for the violation of any of the provisions of this act; such proceedings shall be brought in an action in debt, and upon conviction thereunder, the person so convicted shall be liable to a fine which shall be the same amount fixed in the section of this act, for violation of which the suit shall have been brought; and all fines and penalties collected by any court under the provisions of this act shall be paid over to the secretary of this board, to be received and disbursed by him in accordance with the provisions of this act.

The expenses of said board and of the examinations shall be paid from the license fees provided for and if any surplus remain the same may be distributed among the members of said board as a compensation for their services, as members, but otherwise they shall receive no compensation whatever. The term "board" when used in this act means the state board of medical examiners. This act shall take effect immediately.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.

Daviess County Medical Society, Feb. 22, 1915.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, Feb. 3, 1915, Dr. J. F. Owens in the chair. Thirty-one members were present. The minutes of the previous meeting were read and approved.

The special committee appointed at the previous meeting to call on the Y. W. C. A. and the Y. M. C. A. for the purpose of protesting against the management of these institutions handling lectures through unscientific bodies, reported no action and the committee was continued to report at the next meeting. Likewise, the Committee on Public Health and Legislation, who were instructed to investigate drug-gist substitutes were given time until their next meeting for their report.

A circular distributed broadcast by Dr. W. W. Walker, chiropractor, was displayed and after considerable discussion the matter was referred to the Committee on Public Health and Legislation for action.

The secretary was instructed to request the Hon. K. B. Randolph, attorney, to be present at the next meeting and explain to the members the requirements of the Harrison Bill, which becomes a federal law, March 1, 1915.

The program and library committees were both instructed to have their reports ready at the next meeting.

Dr. W. L. Kenney, presented a clinical case of acne vulgaris.

A very interesting paper was read by Dr. H. S. Conrad, subject, "Cholecystitis," which was discussed by the following members: Drs. Spencer, Elam, McGill, Caryl Potter, Schmid, Geiger, Farber and Holley; Dr. Conrad closing.

The Buchanan County Medical Society met in regular session in their rooms Wednesday evening, February 17, Dr. J. F. Owens in the chair and forty-nine members present. The minutes of the previous meeting were read and approved.

The resolution drawn up by the committee of which Dr. C. R. Woodson is chairman, for the purpose of calling on the Y. W. C. A. and the Y. M. C. A. protesting against the management of these institutions handling free lectures through unscientific bodies, was read and on motion of Dr. Woodson, seconded by Dr. Lynch, the secretary was instructed to send a copy of these resolutions to both institutions. The motion carried.

The committee for securing suitable club rooms and the Committee on Druggist Substitution were given further time for their reports.

Considerable discussion was indulged in regarding the interpretation of the Harrison bill governing the use and sale of narcotics which goes into effect March 1. The society's attorney, Judge Randolph, gave his opinion and the privilege of the floor was

extended to W. C. Bender and J. W. Koch, druggists, who were present. The committee who has the arrangements for the state meeting in charge requested action on the part of the society regarding clinics and method of entertainment. Action was deferred until the next regular meeting.

Dr. J. W. Heddens entertained the society with a paper entitled, "The Discovery of a New Method of Diagnosis." Discussion by Drs. Good, Senior, W. F. Schmid, Charles Geiger, Bansback, Wallace, Caryl Potter and Farber; Dr. Heddens closing.

The second paper on the program was read by Dr. T. E. Potter, entitled "Fecal Fistula." Discussion by Drs. C. Geiger and Senior.

On motion the society adjourned.

W. F. GOETZE, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its regular monthly meeting at Cape Girardeau, February 8. There were six members present.

After attending to the routine business, the application of Dr. J. W. Ramsey of Tilsitt was presented and the doctor elected to membership.

Dr. John D. Porterfield, Jr., read an interesting paper on "Carcinoma of Breast," illustrating surgical technic by drawings and reporting cases from practice. He also reported a case of rapid metastasis of carcinoma of the liver following the removal of a carcinomatous mass from right breast. Pathological specimens were presented.

Dr. Wilson outlined a few points on professional advertising.

Dr. Schulz reported an interesting case of gangrenous appendix with fecal concretion in appendix similar to a bean; peritonitis developed and after proper operative procedure patient is getting along nicely.

Dr. Porterfield reported a case of gangrenous appendix, which was followed by pain in the hepatic region a few days after the removal of the appendix and phlebitis developing in left saphenous vein.

E. H. G. WILSON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville, February 11, at 1:30 p. m., with the following members present: Drs. W. F. Chaffin, H. S. Crawford, M. P. Overholser, R. D. Ramey, J. S. Triplett, R. P. Yeagle and, as a guest of the society, Charles C. Conover, Kansas City.

The program was as follows: "Acute Suppurative Nephritis," by Charles C. Conover, M.D., Kansas City. This was a very interesting and instructive paper, and contained many practical ideas relative to the differential diagnosis of abdominal infections. A general discussion followed.

"Applied Therapeutics," by R. D. Ramey, M.D. This was also a very interesting paper, and was a plea for the old time prescription and simple compounds. It was thoroughly discussed by all present.

Dr. M. P. Overholser, president, addressed the society on the policy for the coming year, and made many suggestions of interest to the members of the society.

Dr. Rodney D. Ramey of Garden City was elected to read a paper at the meeting of the State Medical Association in St. Joseph.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in Liberty the evening of February 22. A severe rain and snow storm cut down the attendance; nevertheless, an enthusiastic meeting was held.

A resolution was passed unanimously opposing the "Chiropractic Bill" now pending in the legislature, and a copy ordered sent to our representative.

Dr. Burton Maltby of Liberty read an excellent paper on "La Grippe," which was freely discussed.

Dr. J. H. Rothwell gave a characteristic talk on "The Headache of Intracranial Disease," which was well received. Those who were so unfortunate as to not get to this meeting missed a treat.

The next meeting will convene at the Snapp Hotel in Excelsior Springs, Monday evening, March 29. Dr. J. E. Baird of Excelsior Springs will read a paper on "Blood Pressure," discussion to be led by Drs. Rothwell and Rice.

A symposium on "The Management of Bronchial Asthma" will be participated in by the members present. Each member will be expected to offer a five-minute talk on the treatment of this disease.

Several members are still in arrears for 1915 dues. We urge on all the wisdom of retaining good standing in the county society.

Watch your JOURNAL for announcements.

J. J. GAINES, M.D., Secretary.

HOWELL COUNTY MEDICAL SOCIETY

The Howell County Medical Society met in adjourned session at West Plains in the K. P. Hall, December 17, 1914, at 1:30 p. m. After the reading and approval of the minutes the society listened to a very interesting program.

Dr. J. C. B. Davis, of Willow Springs, read a splendidly prepared paper on "Typhoid Fever." He pointed out that typhoid fever is one of the filth diseases confined to the human race, and is preventable, and it is therefore the duty of the individual, the community and the state to bend every effort to prevent it. The keynote of prevention is education. Teach and enforce the laws of sanitation. Eradicate the germ by destroying its breeding place and removing its carriers. Clean up the premises and keep them clean all the year round. This is not a disease peculiar to any season, but is infectious during all seasons. The greatest single factor in prevention is vaccination. After mentioning the wonderful results secured by vaccination in improving the health of our army, and other armies where it is used, by practically eliminating typhoid fever from mobilization camps and army hospitals, he urged the general use of this means of prevention, and suggested that the state furnish vaccine for immunizing the worthy poor. His paper had many other good points in it and was generally discussed. Dr. Shuttee in discussing the paper, hoped the time would soon come when the state would be able to establish well trained sanitary officers in each community, who could educate people along sanitary lines and enforce sanitary laws.

Dr. W. E. Bess of this city read a paper on venereal disease, confining his subject to syphilis. He emphasized the value of neosalvarsan, but urged the use of small doses in conjunction with the iodids and mercury.

After a short discussion upon the ethics of the professional card in the newspaper, it was decided by action of the society that we drop the use of the cards entirely. The members of the society were requested to comply with this action, beginning Jan. 1, 1915.

Dr. Davis invited the society to meet with the doctors at Willow Springs at its convenience.

The following are the officers elected for 1915: President, Dr. James H. Elliott; secretary-treasurer, Dr. A. H. Thornburgh. Other officers and delegates not yet elected.

Dr. Shuttee stated that he had attended the Fischel memorial services in St. Louis, December 12, and heard Dr. Victor C. Vaughan, president American Medical Association, and Dr. A. Jacobi of New York, an ex-president of the American Medical Association, deliver addresses. Dr. Vaughan won the hearts of his hearers by saying that he had visited the different countries of Europe and studied the doctors as he had found them, and had arrived at the conclusion that the ordinary medical man of this country is better posted and safer in his professional work than the medical men he met abroad. He has an abiding faith in the doctors of this country, and paid special tribute to our country doctors. Dr. Jacobi, speaking of the high character of Dr. Fischel as a man and as a physician, warmly eulogized his worth to the profession and paid his respects to his memory, and incidentally warmly praised the American country doctor.

Of course we country doctors have long known our value and resourcefulness, having had to fight our battles alone, but it makes us feel good to have our abilities recognized by men in authority who know a good thing when they see it. At least we have come into our own, now let us have a care and be diligent lest we lose the high esteem of our brothers of the city.

A. H. THORNBURGH, M.D., Secretary.

M'DONALD COUNTY MEDICAL SOCIETY

An organization meeting of the physicians of McDonald county was held at Anderson, January 15, with Dr. R. L. Wills of Neosho, councilor Twentieth district, in charge.

The following doctors were present: John P. Beeson, George V. Poyner, Southwest City; W. J. Adkins, Goodman; Martin L. Sellers, Wm. S. Best, S. Bernice Buck and James T. Fulkerson, Anderson.

The following officers were elected to serve during the year 1915: President, Dr. Oakley St. John, Pineville; vice-president, Dr. John P. Beeson, Southwest City; secretary-treasurer, Dr. James T. Fulkerson, Anderson.

It was decided to hold meetings every two months, the first to be held at Anderson, March 17, 1915.

J. T. FULKERSON, M. D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society met in regular session in the Circuit Court Room, Marshall, Tuesday afternoon, Feb. 9, 1915, J. E. Harris, M.D., president, in the chair.

In view of the prevailing epidemic of small-pox in Marshall and Saline County, the subject for discussion was "Vaccination." Two papers were read, one by Dr. W. C. Gore on "Vaccination; Its Origin, History and Efficiency"; another by Dr. D. F. Manning on "Internal Vaccination, So Called."

Dr. Gore's paper was all that its name implies backed up by the accumulated evidence of 120 years of experience, observations and demonstrations of world-recognized authorities, showing that vaccination wherever enforced has redeemed humanity from the most dreadful and fatal scourge that ever afflicted mankind, saved more lives, prevented more suffering than any other one procedure ever put forth.

Dr. Manning's paper dealt with an obscure subject, concerning which literature is very scarce. It seems that the procedure of so-called internal vaccination had its origin in St. George's Hospital, London, about

1900, where some physicians, anxious to obviate the sore arms which must of necessity result from successful vaccination, conceived the idea of the internal administration of virus by the mouth instead of by the method of scarification and inoculation with cow-pox virus. The method was "weighed in the balance and found wanting," and they abandoned it.

The principal source of information was from homeopathic literature. Quotations from the *Journal of the American Institute of Homeopathy*, the highest tribunal of their school, show that at a regular meeting of the institute, after numerous reports on the subject, the procedure known as internal vaccination was condemned as a failure and its use repudiated.

Numerous articles from leading homeopathic writers, published in their journals and periodicals extol in strongest terms the regular vaccination as a safe and reliable means of preventing small-pox.

Communications from Secretary Goodwin of the Missouri State Medical Association were read and acted on. Routine business was transacted, and the society adjourned to meet the second Tuesday in March.

A number of visitors were present and we wish to thank them for their visit. It encourages and inspires us for the public to manifest some appreciation of our efforts in the interest of humanity.

G. A. AIKEN, M.D., Secretary.

WAYNE COUNTY MEDICAL SOCIETY

The Wayne County Medical Society met in regular session at Williamsville, Dr. J. P. Price, president, presiding. The following members were present: Drs. W. S. Bailey, J. L. McGhee, R. J. Owens, and G. W. Toney. Visiting member, Dr. J. L. Harwell of Hendrickson. The minutes of the last meeting were read and approved.

Dr. R. J. Owens read an interesting paper on "Influenza," after which a discussion followed.

Dr. Bailey offered his resignation as secretary on account of having moved out of the county, going to Poplar Bluff, Mo., which was accepted. Dr. Richard J. Owens of Mill Spring was elected to fill the unexpired term.

A letter was read from the secretary of the State Medical Association, calling our attention to the optometry bill now pending in the legislature. The following motion was made and carried unanimously by the society: That the secretary of this society be instructed to wire Senator C. P. Hawkins and Representative J. M. Bowers to use their influence and vote against the optometry bill, known as Senate Bill 416.

The meeting adjourned to meet at Piedmont, April 13, 1915.

R. J. OWENS, M.D., Secretary.

WRIGHT COUNTY MEDICAL SOCIETY

The regular meeting of the Wright County Medical Society was held in Dr. Rogers' office at Mansfield, Feb. 4, 1915. The following members were present: Drs. R. M. Rogers and J. A. Fuson of Mansfield; Dr. R. A. Ryan, Norwood; Dr. A. J. Farmer, Hartville; Dr. A. C. Ames, Mountain Grove; Drs. C. W. Russell and T. B. Fuson, Springfield, were present and elected to honorary membership and invited to participate in the work of the society.

Dr. Russell read a paper on appendicitis cases that come too late for operation. It was illustrated by color drawings and gave much light on many obscure abdominal conditions. It was discussed by Drs. T. B. Fuson, A. C. Ames and R. M. Rogers.

Dr. T. B. Fuson read a paper on vomiting of pregnancy and reported a severe case now in his practice. It was discussed by Drs. Rogers, Ames, Russell and Farmer.

Dr. Farmer read a paper on "Eczema," which was discussed by Drs. Rogers, Ames, Russell and T. B. Fuson.

In response to a request from Dr. Goodwin, the state secretary, the society voted to request our state delegate, Dr. Wittwer, to prepare and read a paper at the meeting of the State Association at St. Joseph in May.

Meeting adjourned to meet at Hartville in May.
A. C. AMES, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1914, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

ALCRESTA IPECAC TABLETS.—Tablets containing an adsorption product of ipecac alkaloids and Fullers' earth, each tablet representing 10 grains of ipecac. The ipecac adsorption product is said to pass the stomach unchanged but to be decomposed in the intestine with liberation of the ipecac alkaloids and thus to exert the amebacidal action of ipecac in the body. Eli Lilly and Co., Indianapolis, Ind. (*Jour. A. M. A.*, Feb. 13, 1915, p. 591).

TYPHOID COMBINED VACCINE (PROPHYLACTIC).—Marketed in vials and syringes, each package containing three doses. Schieffelin and Co., New York (*Jour. A. M. A.*, Feb. 20, 1915, p. 665).

CANTHARIDIN, MERCK.—A non-proprietary preparation of cantharidin. Merck and Co., New York (*Jour. A. M. A.*, Feb. 20, 1915, p. 665).

PROPAGANDA FOR REFORM

CELERINA, ALETRIS CORDIAL AND KENNEDY'S PINUS CANADENSIS, LIGHT AND DARK.—As glaring instances of nostrums exploited to physicians on unscientific claims and false representations, the Council on Pharmacy and Chemistry has prepared reports on the products of the Rio Chemical Co., namely, Celerina, Aletris Cordial, Kennedy's Pinus Canadensis, Light or Abican, and Kennedy's Pinus Canadensis, Dark or Darpin.

In addition to 42 per cent. of alcohol Celerina is stated to contain kola, viburnum, celery, cypripedium, xanthoxylum and aromatics. There is no ingredient in Celerina, except the alcohol, that has any recognizable activity and the alcohol content is nearly as great as that of whiskey. The sooner it is realized that this preparation is essentially nothing but alcohol and bitters exploited under a fancy name, the better for the science of medicine and the public health.

In addition to 28 per cent. of alcohol, Aletris Cordial is stated to contain aletris, helonias and scrophularia. These drugs have been discarded as valueless by modern scientific medicine. In Aletris Cordial there is no ingredient capable of producing any other effect than the alcohol stimulation and such psychic effect as may be due to the bitter taste. Yet physicians are asked to believe that "probably no remedy is so uniformly successful in the prevention of threatened miscarriage as Aletris Cordial, Rio." Alcohol being the essential constituent of Aletris Cordial and the amount being high enough to promote the formation of the alcohol habit, the recommendation to administer it during pregnancy and to young girls is dangerous and an outrage.

Kennedy's Pinus Canadensis, Dark, recently renamed "Darpin" and Kennedy's Pinus Canadensis,

Light, recently renamed "Abican" are of interest chiefly because of the unwarranted claims which are made for them. The "dark" preparation appears to be some sort of a tannin-bearing extract. The "light" preparation appears to be a sulphate of zinc-alum injection. It is devoid of tannin and is not an extract of *pinus canadensis* as claimed. A discussion of the claims made for these preparations is superfluous. It is enough to mention that they are recommended in such diseases as albuminuria, fetid perspiration, gonorrhea, uterine hemorrhage and leukorrhea (*Jour. A. M. A.*, Feb. 13, 1915, p. 606).

TRI-IODIDES, THREE CHLORIDES AND MAIZO-LITHIUM.—As an illustration of unreliability of claims and unscientific character of proprietary mixtures the Council on Pharmacy and Chemistry published reports on Tri-Iodides, Three Chlorides and Maizo-Lithium, products of the Henry Pharmacal Company (J. F. Ballard, proprietor).

The A. M. A. Chemical Laboratory reported to the Council that contradictory and false claims were made in regard to the composition of Tri-Iodides (Henry). The Council held that Tri-Iodides conflicted with its rules in that the composition was incorrectly stated, because it was advertised indirectly to the public, because unwarranted therapeutic claims were made for it, because the name did not indicate the potent ingredients and because the mixture was unscientific.

Three Chlorides was claimed to contain mercuric chloride, arsenic chloride and ferrous chloride (protochloride of iron). The A. M. A. Chemical Laboratory reported to the Council that, while the advertising matter laid much stress on the superiority of the protochloride of iron which was stated to be present, the iron was not in the ferrous but in the ferric condition. The Council held Three Chlorides in conflict with its rules in that its composition was not correctly stated, in that it was advertised indirectly to the public for the treatment of diseases with the likelihood of doing harm, in that exaggerated and unwarranted therapeutic claims were made for the preparation in that the name of this mixture did not indicate the presence of its potent constituents: iron, mercury and arsenic, and in that the routine administration of mercury and arsenic with iron in fixed combination is irrational.

Maizo-Lithium is one of the many proprietary lithium preparations based on the disproved theory that lithium dissolves uric acid deposits in the body. While claimed to contain "maizenate of lithium" the Association's chemists reported to the Council that they questioned the existence of such a compound, that the manufacturer had failed to submit evidence of its presence in his preparation and that chemical analysis indicated the presence of lithium citrate, instead. The Council held Maizo-Lithium in conflict with its rules in that its composition was not disclosed, in that it was advertised indirectly to the public and in that unwarranted therapeutic claims were made for it (*Jour. A. M. A.*, Feb. 6, 1915, p. 528).

PURITY OF ETHER AND POSTANESTHETIC GLYCOSURIA.—Animal experiments by Ross and Hawk show that postanesthetic glycosuria is not due to impurities as has been claimed, but is brought about by a carbohydrate free diet prior to the anesthesia. Those who claim that the U. S. P. tests for the purity of ether are insufficient, should present better evidence than they have so far done (*Jour. A. M. A.*, Feb. 20, 1915, p. 668).

COD LIVER OIL VERSUS MILK, BUTTER AND EGGS.—Like other fats, cod liver oil is readily digested and utilized in the body. Its disagreeable taste has largely outweighed its availability as a nutrient. Recent experiments have established that the peculiar growth promoting qualities of cod liver oil are likewise

possessed by butter and egg-yolk fat. There seems to be no reason, therefore, to administer the unpalatable cod liver oil (*Jour. A. M. A.*, Feb. 20, 1915, p. 667).

COD LIVER OIL CORDIALS.—To determine if the growth promoting principle of cod liver oil is contained in the oilless cod liver oil preparations on the market, feeding experiments have been made with some of these preparations by J. P. Street of the Connecticut Experiment Station. In these experiments it was found that the normal nutrition and growth of rats was not maintained when the fat of a standard ration was replaced by a representative amount of Hagee's Cordial of the Extract of Cod Liver Oil Compound, Vinol, Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver and Waterbury's Compound, Plain. When, then, these animals were placed on a ration containing an equivalent amount of cod liver oil, normal nutrition and growth was soon established (*Jour. A. M. A.*, Feb. 20, 1915, p. 638).

TOWNS' EPILEPSY TREATMENT.—This is a bromid mixture marketed by the Towns' Remedy Company, Milwaukee, Wis. It was found by the A. M. A. Chemical Laboratory to contain the equivalent of 21.3 grains of potassium bromid and 0.78 grain of potassium iodid per dose (one and one-half teaspoonfuls) (*Jour. A. M. A.*, Feb. 20, 1915, p. 683).

VIROL.—The Council on Pharmacy and Chemistry voted to refuse recognition to Virol (sold by the Etna Chemical Co. in the United States) because the claims made for it were unsubstantiated and unwarranted. A referee who analyzed Virol concluded that it was an extract of malt, with fat and a small amount of protein. He held that Virol could not be considered a "complete food" as claimed, nor an ideal food for infants (*Jour. A. M. A.*, Feb. 20, 1915, p. 683).

SALESTHYL AND SAL-HYL.—Salesthyll, a liquid marketed in capsules, is stated to be the menthyl ester of methyl salicylate. Sal-Hyl is stated to be an ointment of Salesthyll, but the exact composition is not disclosed. Salesthyll was submitted to the Council on Pharmacy and Chemistry with the claim that it had the properties of salicylates but to be more efficient. The evidence to substantiate the therapeutic claims was found to be inconclusive and untrustworthy. Being similar to "sal-ethyl," described in N. N. R., the name Salesthyll was held objectionable. The Council refused recognition to these preparations (*Jour. A. M. A.*, Feb. 20, 1915, p. 684).

ANALUTOS.—Analutos is a name applied to calcium acetyl-salicylate. The Council on Pharmacy and Chemistry refused recognition to Analutos because it was held not to have any advantages over acetyl-salicylic acid. In view of this, it was held that medicine should not be burdened with this non-descriptive name (*Jour. A. M. A.*, Feb. 20, 1915, p. 684).

BUDWELL'S EMULSION.—Budwell's Emulsion No. 1 is stated to contain cod liver oil, "Iodide of Arsenic," "Iodide of Calcium" and "Iodide of Manganese." Budwell's Emulsion No. 2 is claimed to contain the ingredients of the first and also creosote carbonate and guaiacol. The Council on Pharmacy and Chemistry refused recognition to these preparations because the exploitation made likely their use as "consumption cures" and because they are irrational shotgun mixtures (*Jour. A. M. A.*, Feb. 20, 1915, p. 684).

CITARIN.—Citarin was admitted to New and Non-official Remedies in 1906. The Council on Pharmacy and Chemistry held that experience had failed to demonstrate the value of Citarin as a uric acid solvent and hence directed the omission of it from New and Nonofficial Remedies (*Jour. A. M. A.*, Feb. 20, 1915, p. 685).

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ORIGINAL ARTICLES

THE INTRAVENOUS AND INTRAMUSCULAR ADMINISTRATION OF DIPHTHERIA ANTITOXIN *

From the Department of Pediatrics, Washington
University Medical School and the St. Louis
Children's Hospital.

BORDEN S. VEEDER, M.D.
ST. LOUIS

The value of diphtheria antitoxin is no longer a moot question. There are, however, certain factors in regard to the dosage and method of administration which modify its action to a considerable degree and which are less generally understood. As diphtheria antitoxin is used for two distinct purposes, the one curative and the other preventive, the subject is best discussed from these standpoints.

THE CURATIVE ACTION OF DIPHTHERIA ANTITOXIN

At first the reaction between diphtheria toxin and antitoxin was thought to be similar to that of a simple chemical combination in which two substances unite to form a chemically indifferent combination when brought in contact with one another. The reaction is by no means so simple. Toxin is formed and absorbed from the organisms in a diphtheritic membrane, or even perhaps from organisms in the blood stream itself, as recent work would tend to show, and circulates in the blood. It leaves the blood stream to unite with the cells of those tissues which have a special affinity for the toxin. If there is antitoxin in the blood, it may unite with the toxin directly and the higher the degree of concentration of antitoxin the more rapidly and completely this takes place. A certain amount of time is required, however, as the union of the two is not immediate. If the toxin has already attached itself

to the tissue cells it is necessary for the antitoxin to attach itself to the cell in order to bring about the neutralization, and under these conditions a high degree of antitoxin concentration is even more necessary to inhibit the action of the toxin, as Berghaus has shown. If in any instance a lethal dose of toxin has been absorbed before the antitoxin begins to unite with the toxin, it is impossible to prevent a fatal outcome by the administration of antitoxin. As a matter of fact it is probable that the chief action of antitoxin is to neutralize the toxin in the process of absorption, as certain experiments of Schick, which we have confirmed in our work, would tend to show.

We found that diphtheria toxin skin tests made at the same time that antitoxin was given subcutaneously, or made previously to the injection of antitoxin, were not suppressed, while tests made three hours afterwards were negative. When the same amount of antitoxin was given intramuscularly, tests made four hours before the injection were not affected, tests made two hours before were somewhat suppressed, and those made at the time of injection were negative. When the antitoxin was given intravenously, the tests made six hours before were positive, tests four hours before were faint, and those made two hours before were negative. From this it may be inferred that the action of antitoxin is to a large extent an immunizing one.

From its mode of action it is thus seen that the best clinical results are to be expected from antitoxin when a high degree of concentration in the blood is obtained in the shortest possible time. The optimum degree of concentration required will vary with the amount of toxin absorbed in each individual case, but in all cases the time element is of most importance. There is a large amount of experimental evidence at hand which shows that the closer an injection of antitoxin follows a lethal toxin injection, the smaller the amount of antitoxin required to inhibit its action. There is clinical evidence of the value of early administra-

* Read before the St. Louis Medical Society, Jan. 23, 1915.

tion in the figures of Deycke, who collected the mortality figures in 78,028 cases—a number large enough to exclude such factors as dosage and differences of virulence in different epidemics. The death rate as regards the day of the disease on which antitoxin was administered was as follows: Of cases receiving antitoxin on the

1st day,	4.3 per cent. died
2d day,	7.6 per cent. died
3d day,	14.7 per cent. died
4th day,	19.7 per cent. died
5th day,	31.6 per cent. died
6th day,	31.3 per cent. died
After 6th day,	31.6 per cent. died

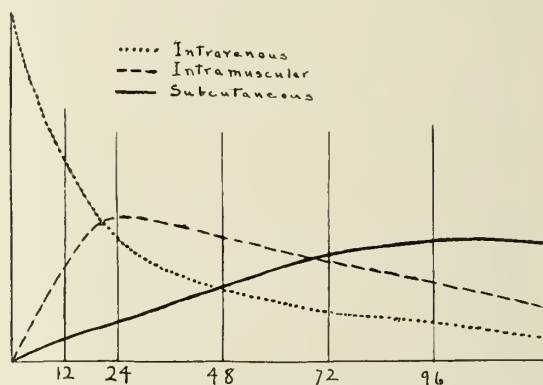
The problem, then, is to get the antitoxin into the blood stream as rapidly as possible and in a high degree of concentration, as the degree of concentration and not the total amount measures its effects.

The first method of accomplishing this is by making an early diagnosis and giving antitoxin at once. The average day of disease at which children with diphtheria are admitted to the St. Louis Children's Hospital is between the third and fourth day, and not more than 5 per cent. have had antitoxin previously. If, then, in the average case antitoxin is not given until the second or third day, the method of administration becomes of marked importance, as by altering the method of administration we can markedly alter the length of time required to obtain the maximum concentration in the blood.

There are three methods of administration open, the subcutaneous, the intramuscular and the intravenous. Park has shown that there is a marked difference in the amount of antitoxin in the blood stream following subcutaneous and intravenous injections. Of two children given equal amounts of antitoxin, one will have twenty units of antitoxin per cubic centimeter at the end of six hours if the intravenous method is used, and the other two units per cubic centimeter if the antitoxin is given subcutaneously. At the end of twenty-four hours there are twelve units for the intravenous method against six for the subcutaneous; by the third day the two are equal and from then on the quantity in the child injected intravenously is less. J. H. Smith and others have also noted the high concentration with a rapid fall following intravenous injections. According to Smith but one-third of the original amount is left at the end of twenty-four hours. The curve of absorption of antitoxin given subcutaneously rises slowly, not reaching its maximum until about the third or fourth day. At about the fourth day the active production of immune units by the body in

cases where a lethal dose of toxin has not been absorbed begins to make itself felt, and by the sixth day the antitoxin content is much higher in some cases than the total amount of antitoxin given.

The increased rate of absorption of colloidal substances injected into muscle tissue over colloids injected subcutaneously has been shown by Morgenroth and Levy, Lemaire, Karasawa and Schick and others. Morgenroth found that four or five hours after injection there was from five to twenty times as much in the blood when the antitoxin was given intramuscularly as when given subcutaneously, and that in seven or eight hours there was from three to ten, and after twenty-four hours five times as much. From these figures it will be seen that intravenous and intramuscular injections are to be preferred to subcutaneous, as a high concentration of antitoxin in the blood stream can be obtained in a few hours, while subcutaneous



Curves showing relative amounts of antitoxin in blood following injections of the same amount in different ways. Figures denote hours after injection.

ously the maximum effect is not reached for three or four days. For this reason the same results will be obtained from a much smaller amount of antitoxin if the intravenous or intramuscular method is used.

The accompanying diagram shows in a graphic way the absorption curves for antitoxin following the different methods of administration.

Both the intravenous and intramuscular methods of administration have been used clinically in the past and their advantages urged by a number of authors, but for some reason the subcutaneous method is employed in about ninety-nine out of every one hundred cases. We have used both the former methods quite extensively at the Children's Hospital in the past three years on a group of cases which were selected for their severity, as our accommodations for treating diphtheria have been limited until recently, and a large percentage of the cases admitted were septic or had a laryngeal involvement. In almost all of the

laryngeal cases and in some of the more severe pharyngeal cases we have given from 2,000 to 5,000 units of antitoxin intravenously. The difficulty of injection has been urged against this method, but I feel this has been overestimated. We use an antitoxin of high concentration—1,200 to 1,400 units per cubic centimeter—which is diluted one to four, heated to body temperature, and injected into any available vein with an ordinary glass syringe. In fat babies, where the vein at the bend of the elbow is not easily found, we inject directly into the external jugular. In a number of cases the injection has been followed by a severe chill with rise in temperature and rapid pulse, in from ten to thirty minutes after the injection. One or two adults of the house staff who have been given antitoxin intravenously have been nauseated and have complained of intense headache. In every instance, however, the temperature has fallen to normal by the next day and the patient has been free from all signs of toxemia. It has seemed to us that the membrane has sloughed off more rapidly following the intravenous injections, but no effect has been noted on the time in which the throat became free from the diphtheria bacillus. The intramuscular injections have been almost equally efficient from a clinical point of view. The reaction is much less severe than that following intravenous injections and the injections apparently are no more painful than those given subcutaneously. We have used both the spinal and gluteal muscles as the site of the injection and have adopted the intramuscular injection as the routine procedure in the average case.

The question of the amount of antitoxin to be given has been the cause of much dispute. The earlier dosage of 1,000 to 2,000 units subcutaneously was too small. On the other hand quantities of 30,000 to 40,000 to even 100,000 units are entirely unnecessary. These large doses have all been given subcutaneously and Woody, who recently advocated large doses of antitoxin from his experiences at the Municipal Hospital at Philadelphia, paid no attention to the time element or to the method of administration. The large doses which have been used by some are in many instances the result of using repeated injections. From what has been said it will be seen that it is not the total amount of antitoxin given which counts, but the rapidity with which antitoxin is thrown into the blood stream to neutralize the absorbed and forming toxins. Repeated injections add to the concentration in the blood too late to be of service, and if sufficient antitoxin does not enter the blood stream from the first injection a second will be of no avail.

There is no way at present by which the amount of toxin present in an individual case can be ascertained; hence the amount of antitoxin to be given can only be reached in an empirical manner. Attempts to base the amount to be given on the body weight are fundamentally wrong, as two children of the same body weight may absorb entirely different amounts of toxin, or the toxin absorbed may be of a different potency. We do know that smaller amounts of antitoxin given intravenously or intramuscularly are equal to much larger amounts given subcutaneously. Park states that 5,000 units given intravenously are equal to 20,000 given subcutaneously. We now give from 3,000 to 5,000 units and had no better results when 10,000 units were given as a routine dose. I personally believe that as far as the antitoxin part of the treatment is concerned 2,000 to 5,000 units given intramuscularly or intravenously will cure any case of diphtheria in which the lethal dose has not already been absorbed before the time of injection.

THE USE OF ANTITOXIN FOR PROPHYLACTIC PURPOSES

The object of the use of diphtheria antitoxin for prophylactic purposes is to prevent the development of clinical diphtheria in susceptible individuals exposed to infection. We have recently learned by means of the Schick test that a large percentage of individuals possess a certain degree of immunity to diphtheria as the result of an insensible active immunization. It is possible, however, to obtain a limited degree of immunity in susceptible individuals by passive immunization. As antitoxin is a foreign protein it is rapidly broken down and eliminated, and hence the duration of the passive immunity is short. Park has shown that if ten units of antitoxin are injected into a guinea-pig only one-half unit is left at the end of seven days and one-twentieth of a unit at the end of fourteen days. This is the great drawback to passive immunization. We recently had a nurse who was exposed to diphtheria. As her Schick test was positive she was given 1,000 units of antitoxin subcutaneously. A culture taken at this time was negative. Two weeks later she developed a clinical diphtheria with positive cultures. In this case the duration of the passive immunity was less than two weeks and an active immunization failed to develop during this time although the patient obviously harbored diphtheria bacilli in her throat.

As antitoxin is absorbed more slowly and remains in the blood stream longer following subcutaneous injections, this is the method of

choice for the administration for prophylactic purposes. Our object is not to obtain a rapid high concentration in the blood, as is the case when antitoxin is given for curative purposes, but to maintain a low concentration for as long a time as possible.

The production of an active immunization for prophylactic purposes by means of toxin-antitoxin mixtures has recently been attempted by von Behring, Park and others, but the method is yet in an experimental stage. It offers the prospect of a marked advance in the means of fighting the spread of diphtheria.

SUMMARY

In conclusion I might present the rules or regulations we have adopted at the St. Louis Children's Hospital for the administration of diphtheria antitoxin, as they embody the practical applications of the ideas presented in this paper as well as the results of our clinical experience.

All patients with clinical diphtheria receive antitoxin on admission regardless of whether or not a culture has been taken.

In mild and moderately severe cases from 3,000 to 5,000 units are given intramuscularly.

In all severe or septic cases, and in all cases with a laryngeal involvement, 5,000 units are given intravenously.

All cases seen late (fourth day) are given the antitoxin intravenously if the membrane is at all extensive.

Individuals exposed to diphtheria are given an intradermic diphtheria toxin test (Schick test). In case the toxin reaction is positive in twenty-four hours, 1,000 units of antitoxin are given subcutaneously in older children, and 500 units in children under 2 years.

500 South Kingshighway.

THE SCHICK REACTION IN THE HANDLING OF DIPHTHERIA EPIDEMICS*

ELLSWORTH E. MOODY, M.D.

AND

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Certain phases of the recent epidemic of diphtheria in St. Louis were handled so much more easily by the use of the Schick diphtheria toxin skin reaction that it seems worth while to report it and to outline a method for handling such epidemics.

* From the Department of Pediatrics, Washington University Medical School, and the St. Louis Children's Hospital.

Schick has perfected a skin test, using an intracutaneous injection of $\frac{1}{50}$ the M.L.D. of diphtheria toxin for a 250-gram guinea-pig. Individuals who are susceptible to diphtheria give an inflammatory reaction, which appears in twenty-four hours, becomes most marked in forty-eight hours and heals by brown pigmentation and scaling. In a relatively large series of cases in New York and at the St. Louis Children's Hospital, it has been quite definitely proved that individuals who give a negative reaction will not develop clinical diphtheria, as they possess at least 0.031 units of antitoxin per cubic centimeter of blood. It has also been found that cases of clinical diphtheria give a strongly positive reaction, which appears earlier and shows more induration than the positive reactions in cases which are not clinical diphtheria. It was also found that of a series of 200 cases whose Schick tests were negative, who were exposed to diphtheria one or more times and who were cultured frequently, only eleven became carriers.

In early November several cases of diphtheria developed in the St. Louis Industrial School. All of the residents were given 1,000 units of antitoxin subcutaneously at this time. There were no more cases for three and one-half weeks, when three more cases developed and were sent to the City Infectious Hospital. Schick tests were then made on all the remaining children and 25.4 per cent. gave positive reactions. Those in whom positive reactions came up rapidly were cultured and one of the strongly positive cases proved to have diphtheria. All positively reacting cases were watched and suspicious cases isolated. With these precautions no other cases developed. The test simplified the handling of the epidemic in that it was necessary to watch and culture only 25 per cent. of 300 inmates, while without the differentiation by the test all would have needed equally careful watching.

In each of two relatively small orphans' homes in the city a case of diphtheria developed. All the children at these homes were then tested by the Schick method and two cases in one of the homes showed such strongly positive tests in twenty-four hours that it seemed quite probable that they were positive cases of clinical diphtheria. They were isolated and cultured and in twenty-four hours both presented diphtheritic membranes.

All of the children in both homes were cultured once, and in addition at one home all the children who gave positive tests were cultured daily. Only two more cases developed in this home and in both of these the Schick was strongly positive.

In another institution over which the Children's Hospital has medical supervision a

routine test was made on 100 children and forty cases which reacted positively were watched carefully, but were not immunized and received no medication except daily gargle with salt solution. These children were all in schools from which several cases of diphtheria were reported, but not one developed the disease.

In view of these experiences it seems that satisfactory method of handling epidemics can be outlined by using the Schick test in connection with cultures and with immunization in certain cases. All exposed cases could be cultured once and receive a Schick test at the same time, and all cases giving positive cultures should be isolated. Five days later all the cases which gave negative cultures, but which showed positive reactions to diphtheria toxin, should be cultured again. However, all of this group of cases should be watched carefully for the development of any of the clinical signs. In the case of positively reacting individuals who have anything to do with the care of the infected persons it might be advisable to immunize with subcutaneous administration of antitoxin. Negatively reacting cases need never be immunized.

Although the Schick test is new in our hands, we have been greatly facilitated in the handling of these small problems and it seems quite probable that when the utility of the test is more completely developed results in such problems will be even more encouraging.

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CHRONIC GASTRITIS

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We are concerned here with a disease which is by far more serious than acute gastritis. Thousands of patients do not realize the gravity of their affection and consequently do not consult their physician until it is too late for a perfect cure.

There are two sorts of chronic gastritis, namely, the primary or idiopathic, and the secondary or symptomatic.

Primary chronic gastritis is for a great part the result of our hasty and exciting modern life. It is a disease of those people who take their meals in a hurry. The excessive use of hot bread, cakes and pie is a prevailing cause, especially in the United States. Eating at irregular hours, or too rapidly, and chewing the food im-

perfectly are likewise frequent causes. Drinking too freely of ice water during meals is a pernicious habit in the States. The stomach may stand these insults for years, but finally it succumbs and irreparable lesions are the result. A bad set of teeth creates a tendency to a chronic gastritis, and pyorrhea alveolaris should not be overlooked. Poorly prepared food irritates the stomach; as it cannot be sufficiently digested it gives rise to a fermentation which in time injures the mucosa. The overloading of the stomach with indigestible food in people with bulimia, and patients with diabetes, gout and obesity is also a *causa movens*. Poor people, on the other hand, with a nutrition poor in meat, ingesting large quantities of vegetables, develop gastric catarrh. People who are accustomed to eating very strong spices and to excessive drinking of tea and coffee will injure their stomach in the same way. The chronic gastritis may be furthermore primarily caused by toxic influences, as in abusers of alcohol in its various forms. It is especially whisky that produces lesions of the mucous membrane of the stomach. A frequent cause is the abuse of tobacco—especially chewing.

Secondary chronic gastritis is always preceded by some other chronic disease of the stomach or of the intestines. Repeated attacks of acute gastritis may finally bring about the chronic condition. The chronic catarrh may furthermore be found in consequence of a gastric ulcer, a carcinoma or a dilatation of the stomach. All affections which bring about a stasis in the portal vein system, as thrombosis, cirrhosis of the liver, chronic heart disease and chronic lung affections cause engorgement of the mucous membrane of the stomach. Secondary gastritis is also observed in patients suffering from a condition of general weakness, as chlorosis, pernicious anemia, or the presence of parasites, as bothriocephalus.

Anatomical Alterations.—The definite pathological lesions allow us to divide chronic gastritis into different stages. In the incipient cases the anatomical alterations are localized at the pyloric portion. The mucosa shows a discoloration and a swelling with a profuse secretion of mucus. The color of the mucosa is dark red or grayish red and after sometime it becomes grayish black. Occasionally blood extravasations are to be seen. The hemorrhages in the mucosa may lead to erosions and a real loss of substance in the mucous membrane. Ulcers occur, however, very rarely, and probably are due to hyperplasia of the lymph-follicles. In the course of the inflammation, hyperplastic alterations set in. As is usually the case in chronic inflammations, this inflammatory hyperplasia is simply the anatomic path-

ological base for the clinical picture. We have to deal with a gastritis catarrhalis chronica proliferans. The mucosa in this condition is extremely thickened, the glands are enlarged and proliferated. This process may extend over the entire mucosa; also the submucosa and muscularis may be involved in the hyperplastic process. A hyperplasia of the muscular layer is mostly accompanied by a hyperplasia of the connective tissue. Thus a real contraction of the stomach may be found. The stomach is palpated as a small hard tumor and may be mistaken for a carcinoma. At the time this hyperplastic condition appears, atrophy may likewise begin and the chronic gastritis becomes atrophic after the hyperplastic stage. According to the etiology, however, the various forms of gastritis show a different tendency to hyperplasia or atrophy. Clinical observations will teach us that the symptomatology is quite analogous and corresponds to these phenomena. As Cohnheim has pointed out very plainly, atrophic alterations found in chronic gastritis are due to weakness and consumption. The interglandular tissue becomes so proliferative that the neighboring glands are compressed. This leads to gastritis chronica atrophica. The mucosa is extraordinarily thin and relaxed, but even more hypertrophic processes may accompany the general glandular atrophy. In fact, there are many pathological pictures so that the understanding of this affection is extremely difficult. In the main we only need to discriminate between hypertrophic and atrophic conditions; the rest is irrelevant for the explanation of the clinical picture.

Symptomatology.—The subjective symptoms do not differ very much from those of acute gastritis; there is practically only a difference of intensity. We can recognize very soon whether the condition is acute or chronic. The patients complain chiefly of a sensation of fullness and tenderness to pressure in the gastric region, sometimes even of distinct pains. There is mostly a loss of appetite, or a severe bulimia is present. These patients have real attacks of hunger, often with an appetite for strong spices and stimulating foods; belching is a very frequent symptom; the eructated gases are sharp and may cause pyrosis continuing for hours. Nausea and vomiting may occur at the height of digestion, and the vomit usually contains large amounts of mucus. Much attention has been paid to the morning vomit of drinkers (vomit matutinus), which is a very frequent symptom of chronic gastritis due to abuse of alcohol. The vomit is alkaline and contains much mucus due to the co-existing pharyngitis and esophagitis; only in rare cases does the mucus in matutinal vomiting have its origin in the stom-

ach itself; as a rule, the tongue shows a thick and grayish coating. It is also swollen, which can be recognized by impressions at the margin made by the teeth. The secretion of saliva is in most cases increased, probably on account of reflex irritation of the nerves supplying the salivary glands. Frerichs has found rhodankalium in the gastric juice of patients suffering from chronic gastritis (appearance of a red color after adding a drop of dilute ferricchlorid to gastric juice), since this substance only occurs in saliva this test is a proof for hypersecretion of saliva. In the objective examination of these patients we find the gastric region distended and tender to pressure, especially in the region of the pylorus, that is, immediately below the xiphoid process to the right of the midline. It is common to all forms of chronic gastritis that the secretion of mucus is increased. This is a symptom that has not been emphasized enough by most writers. Eichhorst lays most stress upon this hypersecretion of mucus. The best way to test for it is to syphon the stomach in the morning when empty. We recognize the mucus very easily as a sticky, sometimes cloudy mass; if we add acetic acid the mucus is precipitated and becomes more cloudy.

According to the anatomical alterations that have taken place in the stomach, we will now find a different gastric function. It is therefore justifiable to classify the various kinds of chronic gastritis on the basis of the functional disorders of the stomach. This is the way Cohnheim classifies the cases of chronic gastritis. In a diagram he demonstrates the clinical causes of the disease according to the different etiology and also according to the different functions of the stomach. Up to a certain degree this course is parallel to the anatomical changes. But there are cases in which the clinical picture does not absolutely correspond to the anatomical lesion. It is the same as in other diseases—Nature is one thing and our classification is another. For the rest, Nature goes its own way. In practice, however, Cohnheim's diagram will do good service in general. We distinguish thus, first, the simple chronic catarrh, i. e., gastritis catarrhalis simplex. The amount of free HCl is either normal or subnormal. On account of hypochlorhydria, the stomach contents may easily undergo fermentation, and the organic acids produced thereby may give a very high figure for the total acidity, in spite of the hypochlorhydria. In this form the motor power of the stomach is also diminished. In acid gastritis, gastritis catarrhalis hyperchlorhydria we have, however, a marked hyperchlorhydria. We understand this easily if we consider that we find anatomically a proliferation of the gastric glands. This is a form

of the disease generally met with in abusers of alcohol and tobacco, or in nervous conditions; the motoric power may likewise be increased. But this hypermotility may soon give way to a decreased motoric power. When the glandular elements begin to become atrophic the secretion of gastric juice will become less and less until with a complete lack of glands or with anadenia ventricularis a gastritis catarrhalis chronica apeptica ensues. There is neither HCl nor any ferment in the gastric juice and the condition present is called achylia gastrica. After a test breakfast the stomach contents are found almost unaltered; finally, even the secretion of mucus ceases. This is the terminal stage of chronic gastritis, where any further treatment is in vain. The general nutrition of patients suffering from chronic gastritis is of course very much involved, if the affection has continued for a long time. The blood may even undergo degenerative alterations. We find not infrequently nucleated red blood corpuscles, a diminished amount of erythrocytes and many symptoms of anemia may arise. Some writers have even reported cases in which spontaneous hemorrhages of the skin were found. It is not impossible that some cases of purpura hemorrhagica may be referred to for advanced chronic gastritis.

The bowels are mostly constipated. In many cases, however, constipation will alternate with diarrhea. The fermenting contents of the stomach, will, as they pass into the intestines, irritate the latter and bring about an enteritis. The amount of urine in chronic gastritis is decreased. The urine is dark and concentrated, containing many urates and phosphates. The bodily temperature is not altered. The chronic catarrh may be complicated by various conditions. Hemorrhages are not as frequent as some writers think, although erosions are found anatomically on the mucosa. The hemorrhages are as a rule not macroscopically visible.

The chronic inflammation may bring about an insufficiency of the pylorus. The latter cannot contract as vigorously as in normal conditions, consequently, the gastric contents will pass very quickly into the duodenum and cause an irritation there. The result will be a chronic intestinal catarrh; this may even extend into the bile ducts and bring about a jaundice. A patient with chronic gastritis is liable to get toxins, produced by fermentation and other pathological conditions, into his blood. This autointoxication may become manifest by a multitude of phenomena. We often observe urticaria, eczema or acne as a result of autointoxication. The toxins may also affect the brain. Many patients will complain of vertigo, headaches, dullness and mental depression. Eichhorst even reports

cases of chronic gastritis showing a marked agoraphobia, a fear of passing over a square or a street. The influences of autotoxins on the circulatory apparatus has now and then been noticed. Palpitation and cardio-asthmatic complaints are most rare. Arrhythmia and bradycardia are likewise the result of an autointoxication.

Diagnosis.—Although the clinical picture of this disease is pretty complicated, the diagnosis is not very difficult. But it must be emphasized in the very beginning that the examination of the gastric juice after a test breakfast is indispensable and, in some cases, even a repeated investigation is required. The hypersecretion of mucus is not always indicative of a chronic catarrh, and the examination of HCl allows us to differentiate whether the catarrh is simple, hypo- or hyperchlorhydric. It would of course not be right to consider the acidity only, without paying attention to the mucus. For this may induce us to assume secretory gastric neurosis, which likewise show hypo- and hyperchlorhydria. The exact diagnosis will, however, be easier if we get a detailed history of the case.

For the differential diagnosis, above all carcinoma and gastric ulcer come into consideration in hypertrophic conditions of the gastric wall, especially of the pyloric portion, as we may often have the impression of a malignant tumor in palpation. In hypertrophy the tumor is, however, smooth. The most valuable means for differentiation in cancer before tumor is evident occurs in cases that have not had previous gastric trouble. Marked loss of weight, cachexia, pronounced pain, vomiting, mild leukocytosis, presence of occult blood in stools, presence of many pus cells and blood corpuscles in the stomach contents; also Boas-Oppler bacillus is an evidence of cancer. Gunzberg's reaction is nearly always negative; the average of total acidity is 26. The amount of dissolved albumin in the stomach contents, according to Wolff's method, from 200 to 400, confirms cancer.

The differential diagnosis between chronic gastritis and gastric ulcer cannot be based upon the behavior of HCl, since this varies very much in chronic gastritis. We have to consider, however, that an ulcer occurs chiefly in chlorotic patients. The pain in ulcer is more pronounced and sharply defined and also more dependent upon the ingestion of food.

Gastric Neuroses.—Pressure all day long, independent of meals, gastric secretion, normal or else variable from day to day, gastric ferments normal with absence of HCl. It occurs in patients with habitus enteroptoticus.

Prognosis of chronic gastritis is, in the first place, dependent upon whether it is primary or secondary. In the latter there is only a chance of recovery if we are able to combat the primary cause. The primary catarrh, on the other hand, can only be treated successfully when the therapy is used early. As long as the glandular apparatus has not become atrophic, we may hope to obtain a complete recovery provided the patient obeys our instructions in all respects. In advanced cases, especially in those of anadenia or achylia, our therapeutic measures can only be palliative.

TREATMENT

Mechanical Treatment.—This consists mainly in lavage. The mucus should be removed which covers up the superficial epithelium and prevents the proper action of the digestive juices. Lavage early in the morning or, in bad cases, six hours after the noon meal; and the evening meal should be as light as possible. Ordinarily, lavage the stomach with luke-warm water; if there is much mucus present, sodium chlorid may be added; if there is much fermentation, use boric acid. This should be done daily for a few weeks, and on each occasion it should be continued until the water returns clear.

Dietetic Treatment.—This is of most importance. The food must be non-irritating and easily digested; when the motor power of the stomach is normal we may administer albumins, starch and fats; if it is deficient, it is better to exclude fats; if, again, the secretory power of the stomach is defective, a mixed diet is best given so long as the motor power remains unimpaired; carbohydrates should form the bulk of the food, in those cases in which the HCl is deficient; fats are mostly indicated in cases of malnutrition.

Medicinal.—Hyperacid gastric catarrh. (a) Belladonna for suppression of hypersecretion. (b) Bitters to stimulate the appetite. (c) Antacids after meals to neutralize the acid. These are prescribed according to the following principles: (1) If bowels are normal use sodium citrate, sodium bicarbonate, sod phosphat bismuth carbonate. (2) If constipation exists use magnesia salts, as calcined magnesia or ammonia magnesium phosphate. (3) If diarrhea is present use calcium carbonate or calcium phosphate. Carlsbad water is prescribed for strong patients and Vichy for those who are delicate.

Subacid and anacid gastritis. Where these forms exist use bitters, as the appetite is much decreased. Use HCl either alone or in combination with the bitters. Sodium chlorid mineral waters are indicated.

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A METHOD OF SURGICAL TREATMENT FOR FLOATING KIDNEY

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The history of suspending movable organs has furnished sufficient contra-indications to prove that the best judgment is not exercised when such a procedure is resorted to in every case, for we frequently operate on adhesions formed after a previous operation. Successful non-operative treatment for floating kidney is often accomplished by means of a support below the organ, usually a belt or supporting pad; then, too, nature helps indirectly by supplying a pad of fat after the physician's rest cure. Being convinced that some supporting pad is a valuable means of relief, the operative method of procedure here described has been carefully worked out, the above principles being combined and the organ enabled to adhere to the posterior abdominal wall while being supported. The same thing is accomplished more surely and much more quickly than by hygienic treatment, while the external support is entirely done away with.

The following are the most important symptoms of a floating kidney; (always keeping in mind the fact that a kidney never needs treatment merely because it "floats"):

1. Hematuria; albuminuria.
2. Backache.
3. Dragging pain in right side, increased by constipation, stooping or walking.
4. Sensation of weight or of something being loose; especially severe during the menstrual period and after exertion.
5. Attacks resembling renal colic, attended with vomiting and prostration.
6. Patients sometime become hysterical or hypochondriacal.
7. Temporary hydronephrosis sometimes occurs by the ureter becoming twisted.
8. Edema from pressure on the veins.
9. Dyspepsia, loss of health and strength.
10. Occasionally there is jaundice.
11. Intercostal neuralgia.
12. During the attacks the urine is sometimes high colored and contains an excess of uric acid or oxalates.
13. Irritable bladder and dysmenorrhea.
14. Reflex symptoms are inversely proportioned to the degree of mobility and displacement.
15. Palpitation of the heart is a common reflex symptom.

OPERATIVE TECHNIC PROPOSED

1. Make an incision which equally divides the angle formed by the last rib and erector spinae muscles; this should expose the fatty capsule.
2. The fatty capsule is carefully stripped from the abdominal wall behind and the kidney lifted with it out of the abdominal cavity.
3. An incision is made along the convexity of the organ, dividing fatty capsule and tunica propria. Both these structures adherent to-

gether are completely stripped back and inverted (in rare instances the tunica propria is adherent and must be left behind).

4. This rather thick walled bag is drawn by a few catgut sutures into a ball below the kidney pedicle and anchored with the same catgut strand to the interior of the abdominal muscles at a point just below the inferior angle of the laparotomy wound.

An operator will be agreeably surprised at the difficulty experienced in returning the kidney to the abdominal cavity after such a support has been formed. There is nothing to prevent such a naked kidney becoming firmly adherent to naked muscles during the succeeding two or three weeks in bed.

Out of seventeen cases operated on by this method we have been able to follow up closely the eleven given below:

CASE 1.—Sister I., No. 3356, age 33, music teacher. July, 1912, provisional diagnosis, floating kidney. Mother died of dropsy of heart; father died of cancer. The patient had had the usual diseases of childhood, otherwise health good until past year. Appetite only fair during past year; occasionally has pain in the epigastrium fifteen minutes after meals; frequent vomiting; bowels regular. Urination negative. Menstruation negative, except some pain one day before period. Neuro-muscular negative.

For past four years patient has had occasional pain in right side, growing worse in past year; especially at menstrual period; pain radiating to back of neck and accompanied by nausea and vomiting. Physical examination negative except liver dulness from sixth rib to lower costal margin continuous with mass in abdomen below. Some tenderness in right iliac fossa on deep palpation. Smooth mass felt on right side extending from lower part of ribs to brim of pelvis; movable with respiration.

July 8, 1912, kidney operation as described above under caption, "Operative Technic Proposed." Patient made an uneventful recovery and we have heard through one of her collaborators that she is back at work in perfect health.

CASE 2.—Mrs. McA., No. 3002, age 31. October, 1912, provisional diagnosis, salpingitis, gall-stones, floating kidney. Family history and personal history negative. Puberty at 11; periods very painful. Married at 22. Pregnant after few months and aborted at seven months. One year later aborted at four months. Three years later child born; easy labor; no fever; no sepsis. After a severe physical strain lost weight and began having profuse continued uterine hemorrhages; two years later had abscess of ovary.

Present illness: Patient has had, at previous operations, appendectomy, hysterectomy, cholecystostomy. April, 1912, still complained of pain in right side of abdomen and running up to shoulder. Pain beginning and ending abruptly; lasting from one to twenty-four hours. Cystoscopic examination showed ureteral orifices normal; bladder wall negative. Left catheter passes easily to pelvis; right obstructs three inches in the ureter, but later passes. Urinalysis: Trace of albumin and blood in each kidney. In the right phenolsulphonaphthalein appeared in seven minutes; left in six minutes. Roentgen ray shows shadow of unknown mass about the size of an orange in the

right lumbar region, corresponding to the mass felt on bimanual palpation.

Oct. 16, 1912, kidney operation as described under caption, "Operative Technic Proposed."

Feb. 25, 1914, fourteen months after kidney was suspended, patient reports "kidney lots better," none of old sensations in right side; "glad she had kidney operation." Physical examination showed kidney hardly moves with respiration; lower pole one inch above umbilicus.

CASE 3.—Mrs. A., No. 3794, age 26. March, 1913, provisional diagnosis, appendicitis, salpingitis and floating right kidney. Neurotic temperament; brother died of tuberculosis. Poor health for past ten years. Hysterical attack two weeks ago. Usual diseases of childhood. Tea and coffee to excess. Shortness of breath and palpitation for past two weeks. Pain around heart. Appetite poor; pain under ribs; bowels regular. Stiffness of right side of body. Paresthesias two weeks ago during hysterical attack. Genito-urinary: Previous history negative; present, irregular, profuse, painful and lasting ten to fourteen days. Puberty at 12. Married at 16. Two births; one miscarriage six years ago with profuse hemorrhage. Urinalysis negative.

Present illness: After miscarriage, had pain in lower right abdomen, treatment for same afforded only temporary relief. During last month became distinctly worse. Nervous all her life. Physical examination showed gall-bladder region tender together with entire right side. Right kidney very low; left not palpable.

March 18, 1913, appendectomy, internal Alexander operation; kidney suspension according to the above described method.

Jan. 14, 1914, nine months after operation, patient reports feeling perfectly well some days; other days has pains in right inguinal region. Physical examination showed right kidney "fixed" in somewhat low position, no movement with inspiration or change of position.

CASE 4.—Miss E., No. 3811, age 35. Clerical work. March, 1913, provisional diagnosis, floating kidney; appendicitis. Family history negative; personal history of poor health; very nervous. Usual diseases of childhood. Gastro-intestinal negative. Genito-urinary: Menstruation negative; frequent micturition. Urinalysis negative.

Present illness: Fell fifteen years ago striking right side; one year later began to feel weak, since which time has had similar spells of weakness. Four years ago, first pain in right kidney region diagnosed rheumatism; same time had burning in stomach which radiated to back, relieved by eating. Physical examination showed positive Meltzer. Gall-bladder region tender. Right kidney one inch below McBurney. Left, level of umbilicus. Lower right abdomen tender.

March 17, 1913, kidney operation as described under caption, "Operative Technic Proposed."

February, 1914, eleven months after kidney operation, patient reports urination less frequent; some pain and backache, as before operation. Cystoscopic examination showed urine cloudy; mild inflammation of trigonum; ureteral orifices very small, left drawn far to left side; right in the middle. Urinalysis showed very faint trace of albumin, epithelium, few leukocytes, uric acid and amorphous crystals.

May 16, 1914, fourteen months after operation, has no more pain in the kidney region. Kidney comes to umbilicus level in lying position. Does not descend on inspiration nor with patient in standing posture.

CASE 5.—Mrs. F., No. 3821, age 48. March, 1913, provisional diagnosis, chronic appendicitis, floating kidney. Father and mother died of carcinoma. Patient has had scarlet fever, typhoid, malaria, measles, spinal meningitis (twenty-five years ago). Headaches; poor vision. Appetite good. Some pain in right flank. Bowels costive. Patient feels bloated; belches after eating and is relieved thereby. Pain began gradually in right lumbar region; localized in right iliac region; passed off gradually; not influenced by food; no nausea or vomiting. Attack of jaundice twenty-seven years ago of two weeks duration. Has been treated for dizziness for three months which became worse two weeks ago; one week ago while in bed, felt a sharp pain in right lower quadrant; had similar pain many times before. Pain relieved by hot applications but returned when ever she walked about. Rather narrow costal angle; diastasis of recti muscles; Meltzer's sign strongly positive; right lower quadrant tender to touch. Right kidney, marked ptosis to iliac fossa; left normal.

March 14, 1913, appendectomy; kidney suspension as described above.

February, 1914, eleven months after operation, right kidney nearly immovable with lower pole just below level of umbilicus. Most comfortable with corset on; a very stiff one recommended.

CASE 6.—Mrs. S., No. 3721, age 20. January, 1913, provisional diagnosis, appendicitis, retroflexion, movable kidney. Family history good; personal history good. Has had typhoid, malaria and measles. Menstruation irregular, profuse and painful. Urinalysis negative. For three or four years has had irregular and painful menstruation together with pain between periods; sitting and sewing bring on pain in back and right side. Feb. 3, 1913, a very long appendix containing a small amount of pus was removed; round ligaments shortened and cervix curetted. Patient relieved for about four months following operation when she began having intense pain in right abdomen, especially severe at periods confining her to bed a few days. Physical examination before operation showed positive Meltzer, low right abdomen tender, gall-bladder region negative, neither kidney palpable, uterus back. Four months after operation right abdomen rigid; gall-bladder region tender, also one inch above McBurney's point; right kidney palpable, not low; uterus anteflexed and high. Roentgen ray shows no stone but abnormal condition of right sacro-iliac synchondrosis.

Oct. 22, 1913, kidney suspended as described above.

February, 1914, four months after kidney suspension, patient reports no more of old pain in side; never felt better in her life. Physical examination showed right kidney in position; scarcely moves on respiration; lower pole opposite umbilicus.

CASE 7.—Mrs. P., No. 4279, age 35. October, 1913, provisional diagnosis of stones in floating right kidney and ureter. Appendicitis. Brother has tuberculosis. Patient has been enjoying good health. Diseases of childhood. Gastro-intestinal negative. Married twelve years; five children in good health. Menstrual history previous to marriage good. At present every three weeks, varying amounts, cramp first day. For past year, urination has become more frequent, especially at night (three to four times) accompanied with burning. Two years ago had "stitch" in right side, of short duration but accompanied by vomiting; frequent attacks since, and symptoms severe enough to demand morphin; lately, never free from pain. Twelve years ago had an

abdominal attack, pronounced appendicitis. Physical examination showed positive Meltzer; dulness elicited in low right abdomen; tenderness in low right lumbar region and gall-bladder region. Right kidney to umbilicus when sitting; left not palpable. Ureteral catheterization found, right, 40 c.c. in twenty minutes; specific gravity 1.020, albumin and blood; left, 30 c.c. in twenty minutes; specific gravity 1.010, albumin and blood. Roentgen ray shows stone in right kidney and near orifice of the right ureter.

Oct. 20, 1913, stone removed from kidney, after which the latter was suspended as described; appendectomy; right ureter explored, but no stone found.

February, 1914, four months after operation, patient reports entire freedom from former pain; kidney does not move about as it did. Distance prevented patient from coming to office for physical examination.

CASE 8.—Mrs. F., No. 4395, age 42. December, 1913, provisional diagnosis showed uterus displaced, lacerated cervix, appendicitis, floating kidney. Family history negative. Patient's health poor; losing weight. She has had measles, diphtheria, malaria, pneumonia, pleurisy. No complications. Edema of ankles. Appetite fair. Frequent soreness in abdomen and vomiting. Constipated. Patient torn during first and only delivery, instrumental and followed by sepsis. Until six years ago, after curettement, periods were irregular, profuse and painful, lasting fourteen days. Urination normal. Urinalysis shows faint trace of albumin. Patient has had menstrual trouble since marriage until six years ago when she was curetted, which apparently corrected the disorder. About seven years ago first had pain in low right abdomen, which has been constant since, but worse before periods; pain increased by walking, house work and constipation. Backache began two or three years ago; relieved by hot applications and by lying down. Physical examination showed positive Meltzer. Gall-bladder region tender; right kidney at umbilicus; left, normal. Cervix low, large, irregular, movable and torn. Uterus back.

Jan. 28, 1914, appendectomy, hysterectomy, kidney operation as above.

March, 1914, three months after operation, right kidney comes almost to umbilicus; no movement on respiration or changed position.

CASE 9.—Mrs. K., No. 4500, age 33. January, 1914, provisional diagnosis floating kidney, uterus displaced. Mother had an epithelioma. Patient is losing weight. Gastro-intestinal negative. Menstruation normal. Urination frequent for past two weeks. Blood noted for six years. Four years ago first noticed lump in right side which was painful when patient was constipated. Backache began four months ago, never had sharp pains or colics. Tenderness in right lumbar region; right kidney low and forward; left, normal. Vaginal examination shows slight cystocele and rectocele; cervix low forward, slightly torn; uterus back. A freely movable mass in right lumbar region, size of kidney, which can easily be replaced in normal position for right kidney.

Jan. 23, 1914, appendectomy, internal Alexander operation, kidney suspension according to method described.

February, 1914, one month after operation, kidney comes to level of umbilicus, is slightly movable, but patient says it does not move about as it did. Uterus in anteversion and the unpleasant sensation in pelvis gone.

CASE 10.—Mrs. H., No. 4721, age 41. April, 1914, provisional diagnosis floating right kidney. Family

history negative. Patient is nervous, otherwise condition is good. Appetite poor; bowels constipated; pain in right abdomen, and back, particularly on exertion, relieved by rest in bed. Attacks accompanied by fever and slight chill. One attack of jaundice. Soreness in right side for three years. One year ago, in bed one day on account of acute pain in right side; in bed almost continually for past two months. Discovered mass in right side. Physical examination showed her poorly nourished; narrow costal angle; muscles hypertonic; right abdomen tender; right kidney very low; pelvis negative. Urinalysis showed albumin and granular casts.

April 17, 1914, kidney suspended as described above under caption, "Operative Technic Proposed."

May, 1914, on account of distance patient reports by letter that she is getting stronger and is feeling very well.

CASE 10.—Sister A., No. 4868, age 42. June, 1914, provisional diagnosis floating kidney. Family history negative. Personal history good. Gastro-intestinal negative. Genito-urinary negative. Patient has had pain in low right abdomen for past five years; more severe when patient raised right arm, intervals of pain became more frequent until very recently, when they have been constant; several attacks of vomiting with the pains. Physical examination showed abdomen negative, except right kidney, which comes to anterior-superior spine of the ilium when standing.

July 6, 1914, kidney operation as described above.

We have been unable to examine this patient since operation, but on Sept. 12, 1914, she considers the kidney solidly anchored in position. She is now having a great deal of trouble on the left side and seems to think that it is affected as the right formerly was.

The letter gives the impression of being from a nervous individual who requires more help than can be given by nephropepy.

Metropolitan Building.

TREATMENT OF THE PNEUMONIAS*

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I have very little, if anything, to say about the treatment of the pneumonias that is not known to all of you, and very likely you know much that I will not narrate. This subject is not of my own selection. The selection was made by the Program Committee. I hope it will be followed by a general discussion, for each of you has had more or less experience with the pneumonias, and the only way to make our meetings successful and highly interesting is by each one taking a part and giving the others the results of experience.

The first stage of a lobar pneumonia is one of inflammatory hyperemia and edema. The lung is of a dark red color; it is heavier and less crepitant than natural; it pits on pressure and its cut surface yields a reddish, frothy, tenacious fluid. It is characterized microscopically

by overfullness and slight tortuosity of the pulmonary capillaries and swelling of the alveolar epithelium. It is known as the stage of engorgement. The treatment of this stage of the disease is usually that of giving a purgative which may be a saline, calomel or oil. If the pain is severe a hypodermic of morphin will relieve, which may be further assisted by the use of wet or dry cupping, followed in turn by mustard or turpentine stupes. In my opinion, 5 to 10 gr. of phenacetin is not out of place in the first stage. Poultices may be used for pain. Some prefer the cotton jacket, others object to any sort of a chest wrapping. Mustard is frequently used. The application of the ice-bag may be pleasant to some, others rebel against its use. If it serves no other purpose it may help reduce the temperature. W. G. Thompson says, "Some years ago I made a series of experiments upon animals and man to determine the penetrating power of local heat and cold. Specially constructed thermometers inserted deep into the chest cavity through empyema sinuses were unaffected by external poultices or ice-bags. A dog wearing a glass window inserted in the chest wall through which the lung could be plainly seen, showed no change in the lung, neither congestion nor anemia when poultices or ice-bags were applied to the chest wall; the very different anatomical distribution of the blood supply of the lung and thoracic wall renders it practically impossible that either heat or cold locally applied can modify an area of lung inflammation." But he also says, "Of late I have preferred the continuous ice-bags which are so much employed at present, constantly applied to the affected side." Bleeding is considered justifiable at the commencement (first stage) of highly sthenic cases, having full arteries, a bounding pulse, flushed face and much pain. Fourteen ounces may be taken from the median basilic, or any other preferred vein, sometimes with much benefit. Aconite, veratrum viridi, etc., are used to accomplish similar results of relieving blood-pressure in the inflamed lung, and possibly limit the consolidation of the second stage of the disease, which is known as that of red hepatization. Here there is an exudation of liquor sanguinis and blood corpuscles. The exuded liquids coagulate within the alveoli and terminal bronchioles, the coagulum enclosing numerous white and a few red corpuscles. The alveolar epithelium is swollen and granular. The lung is now much heavier than in the preceding stage and is increased in size, so as to be often marked by the ribs. It is quite solid, sinks in water and cannot be artificially inflated. It is remarkably friable, breaking down with a soft granular fracture; the cut surface has a markedly granular appearance,

* Read at a meeting of the Vernon County Medical Society, State Hospital No. 3, Nevada, Dec. 3, 1914.

seen especially when the tissue is torn and due to the plugs of coagulated exudation matter which fill the alveoli. The color is of a dark reddish-brown, often here and there passing into gray. This admixture with gray sometimes gives a marbled appearance. The pleura covering the solid lung always participates more or less in the inflammatory process. It is opaque, hyperemic and coated with lymph.

In this stage cardiac stimulants are often indicated. It is well to begin their use as soon as the slightest tendency to cardiac failure is shown, which is to be found in the state of the pulse, the first sound of the heart and the pulmonary second sound. When this is present or marked nervous symptoms appear, alcoholics should be used. This is commonly given in $\frac{1}{2}$ -ounce doses every four, three, two or every hour in the form of whiskey or brandy. The pneumonia of drunkards calls for the early use of alcohol and strychnin. If the alcohol fails to hold the heart, strychnin is resorted to in moderate-sized doses and should be given hypodermically. It is said that in no other disease does strychnin act so favorably as in croupous pneumonia if used with good judgment. Camphorated oil is popular now, more so than ever. For sudden heart failure in pneumonia, ether given hypodermically, adrenalin, nitroglycerin or even pituitrin may carry the patient safely over the dividing line. If the pulse becomes rapid, feeble and irregular, digitalis hypodermically should be used freely until the pulse recovers, when the tincture or fluid extract may be given per os. Abraham Jacobi says, "To make a fatal prognosis is a risky thing. Your ability to relieve pain or to increase comfort is always possible, and more than that, many a doomed case of pulmonary edema, from heart disease, acute pneumonia or nephritis, gives the lie to a fatal prognosis if you know how to utilize powerful and repeated subcutaneous doses of the double salt of caffein or a few big doses (10 to 15 minims) of a good fluid extract of digitalis, or strophanthin intravenously, with or without good hypodermic doses of camphor in almond oil, or big doses of musk, or sufficient doses of a nitrite. Only those of us who do not know what medicines can do deny their efficacy."

The ammonias are also used in the pneumonias; the chlorid, aromatic spirits; the carbonate and the iodid are frequently used.

Your treatment is successful and you carry your patient safely across the dividing line and have reached the crisis which ushers in the third stage, or that of gray hepatization which is characterized by a continuance of the process of inflammatory cell emigration and by more

marked changes in the epithelium. The white blood corpuscles continue to escape from the vessels and the alveolar epithelium becomes more swollen and granular. The alveoli thus become more completely filled with young cell forms, so that the fibrinous exudation is no longer visible as an independent material. The fibrinous exudation now disintegrates and the young cells rapidly undergo fatty metamorphosis. The alveola walls themselves, with few exceptions, remain unaltered throughout the process. Although very occasionally, when this stage is advanced, they may be found partially destroyed here and there. Owing to these changes the reddish-brown color of the lung becomes altered to a grayish or yellowish white. The granular appearance is much less marked; the solid tissue is much softer and more pulpy in consistence, and a puriform liquid exudes from the cut surface of the organ. This stage when advanced has been termed "suppuration or purulent infiltration" of the lung. When recovery takes place the contents of the air-vesicles are partly expectorated, but probably mostly absorbed.

Many other remedies have been and are used in croupous pneumonia, such as quinin and urea, iodid of potash, the salicylates, guaiacol, creosote and atropin, spartein, ethylhydrocuprein, the serum treatment, and vaccine treatment; all of which go to show that we know of no specific treatment for pneumonia any more than we do for typhoid fever. Even the diet for these cases must vary according to conditions. What may benefit one pneumonia patient may injure another. If there was a specific treatment for disease physicians would not be so necessary, for the majority of intelligent people can recognize a pneumonia or suspect it at least, and be further impressed by the opinion of an experienced nurse. All they would have to do, if they preferred to take the responsibility, would be to read up, see the treatment and act accordingly. The physician is supposed to treat not an individual name, but the individual patient and the particular condition of the patient. Croupous pneumonia is one of those diseases in which convalescence sets in abruptly. It may be at the end of the third, fifth, seventh or ninth days. When the crisis arrives, the patient sinks into a quiet slumber, the breathing is much easier, the cyanosis has disappeared, the pulse no longer flutters but becomes regular, the temperature falls several degrees in a few hours and there is a general improvement of the condition. The patient passes into a condition of comfort. The crisis of pneumonia is characteristic of the disease; it is more pronounced and introduced more suddenly than in

any other disease, malaria not excepted. It commonly occurs at night and is accompanied by copious perspiration, so that on the following morning the thermometer registers at the normal, or subnormal—more frequently the latter—96-97 F. This is followed by deep and refreshing sleep. The urine becomes more abundant and deposits a considerable quantity of reddish-brown sediment of urates; it also contains chlorids, which during the disease have been diminished or absent from the urine and supposed to be stored up in the exudation of the pneumonia process. But this stage, even after the crisis, may demand the administration of stimulants or the continuation of the treatment of the second stage until the pulse has recovered and the heart's action is normal. This is often demanded especially if the patient should be addicted to the use of tobacco in excess or has the so-called tobacco-heart. But your patient is now convalescent and on the road to recovery. What has brought about the favorable conclusion or what principle has caused the crisis? In other words, what is the mechanism of recovery in a croupous pneumonia. Dr. Ludvig Hektoen of Chicago, in a recent thesis on this subject in *The Journal of the A. M. A.*, after reviewing the matter extensively, comes to this summary: "The cure of pneumonia results from the destruction of the pneumococci in the lungs and in the blood. This is accomplished by phagocytosis and also by extracellular digestive processes. The predominating general defensive reactions in pneumonia are leukocytosis and the production of antibodies for pneumococci, of which the opsonins are best known, and these appear to be specific for the group to which the infecting pneumococcus belongs.

In rapidly fatal cases the defensive reactions are inadequate to destroy the pneumococci which persist and multiply in the lungs and in the blood, and free antibodies have not been demonstrated in the blood.

In favorable cases the pneumococci are destroyed more or less rapidly when the antipneumococcal reactions reach a certain height. We may assume that lysis results when the destruction takes place more gradually. Crisis is the effect of prompt destruction in both cases, but, demonstrated more clearly, in crisis there is an excess of free antibodies in the blood."

Bronchopneumonia calls for about the same treatment as the febrinous form of the disease, except that it being essentially a secondary process, venesection is never indicated, neither is opium so often required for relief of pain. Fresh air is required in both forms. Some would go so far as to place a patient with croupous pneumonia bodily out of doors in order to

obtain the maximum amount of cold, fresh air. The patient with bronchocatharrhal pneumonia needs fresh air also, and the oxygen just as seriously, but he should have it warm.

Another important item in the treatment of both forms of pneumonia is the food supply. Milk is still regarded as the ideal diet so long as tympanites is absent. Soft boiled eggs, custards, junket and soft milk toast fit in admirably. An adequate supply of drinking water is very necessary and is almost as important as the flooding of the patient with fresh air. Castor oil is said to be the best preliminary cathartic. After this has acted thoroughly the bowels should be moved by enemas every day or every second day. Tympanites should be prevented by the use of a proper diet, avoiding food that may lead to retention and putrefaction. If tympanites is present it should be removed by the high rectal tube, high asafetida enemas, or turpentine and soap-suds enemas. Hot water or turpentine stupes may be applied to the abdomen and will often prove of benefit, and turpentine may be given per orem. Putty-like proprietary preparations should never be used in any form of pneumonia, the skin should be kept clean; a good nurse can sponge the body morning and evening or oftener if necessary at regular intervals for high temperature. This will also be restful and gratifying to the patient. The water may be hot or cold as selected by the patient. Dry cupping is in order in either form of pneumonia and should be followed by hot turpentine fomentations for fifteen or twenty minutes at a time. In the second stage of a croupous pneumonia, when the face is cyanotic, congestion of all the organs and a laboring, dilated and distended right heart, venesection may save life or at least relieve the immediate condition. In bronchopneumonia a bleeding is seldom indicated. The patient needs all the blood he has to continue life. Venesection may hurry the case into the coffin. When cerebral symptoms are present the ice cap to the head may quiet the patient. By some, alcohol is no longer considered a cardiac tonic. It is charged with being a cardiac muscle poison and a vasomotor paralyzant, but all the same it still remains a routine remedy with the great army of internists. Dr. Robt. M. Wilson of Philadelphia is opposed to the use of alcohol in the pneumonias, and he says of the crisis: "This interesting and very little understood phenomenon and period are full of danger as well as promise for the patient. Radical changes take place suddenly both in the tissues and in the functions of the body and the resulting shock to the vital centers is severe. The sudden fall of temperature and tremendous expenditure of nervous and chemical energy entailed in the final overthrow of the toxemia,

and the almost instantaneous relaxation of the tired heart must be met by artificial warmth, by absolute rest and sometimes by the use of cardiac stimulants, especially by atropin. The external application of heat (hot blankets, hot-water bottles, etc.), hot water or lemonade given internally and the cessation of all active treatment for the moment will enable the patient as a rule to pass through this narrow channel into the harbor of final safety."

Sometimes the convalescence of a severe pneumonia, especially of the bronchocatharrhal type, is by no means an easy road to travel. The toxemia has poisoned every tissue, falling heavily upon the heart and kidneys. Rebuilding of vitality and energy requires time. Resolution is sometimes arrested in the consolidated lung which is difficult of explanation. In such a case counter-irritation, blister, dry cupping, iodin applications are worthy of trial. It may be mistaken for a pleuritic effusion.

In conclusion, in my opinion, the vast majority of croupous or catharrhal pneumonias, especially if previously healthy and strong, ought to recover. The preliminary purgation, after which enemas to move the bowels, an antiputrefactive diet in many cases, with good nursing, are the main requirements. Symptoms should be met as they arise or are anticipated. Purgings, diet and bathing were the watchwords of the ancients. Add cold and warm clean air to this triad and we have before us the outline of the most successful treatment of one of the most treacherous and dreaded forms of systemic and pulmonary disease.

LODGE PRACTICE *

J. W. BOLTON, M.D.
WARRENSBURG, MO.

Progressive science has always had to overcome obstacles of a greater or lesser degree, and the science of medicine has had and is at the present time having her share of these obstructions. A healthy optimism is always a condition to be desired in aiding to overcome the obstructive elements which are continually arising in progressive medicine, but this alone will not bring success; there must be something of a more radical and substantial nature inaugurated. The local medical fraternities in this state as in every other state have their problems to be worked out, and as environments change there are new problems constantly arising which very materially affect the progress of

medicine in that particular locality. The progress and elevation of the medical profession is not only interfered with, but often brought into disrepute by the individual conduct of its members while a united local profession in any community commands the respect of its citizens. One of the most important evils that has become thoroughly established and which vitally affects both the lodge and the profession is that of lodge practice. I do not believe that doctors as a whole fully realize the menace of this form of practice. Avarice is in this, as in all other forms of graft, the main factor. If the medical profession could be induced to view such practice in its proper light we could soon get rid of it and I am glad to say that in some localities the doctors have awakened and put a stop to this nefarious octopus. Let me emphasize the statement that the county societies have this matter absolutely under their control if they use their power properly. It is certainly a degrading spectacle to see physicians wire-pulling for a lodge practice. One can readily see why a lodge doctor soon loses the respect of both the laity and the profession when he consents to peddle his art as the huckster does his wares. The idea of a physician giving his time to a man and his family, large or small, for \$2 per year! Not only that, but he must look after any member of a foreign lodge who becomes disabled or sick within his jurisdiction. Experience is proving conclusively that the eventual detrimental influence of lodge practice is such that it is becoming obnoxious to those in the profession who realize what is due them individually and collectively. No physician who has the proper self-respect can conscientiously do such work without soon becoming thoroughly sick and disgusted with himself and the work too.

This feeling soon engenders a spirit of carelessness in diagnosis and indifference regarding the welfare of his patients, and a long continuation of this kind of practice will eventually ruin him. Habits will be formed which unfit him for his life work, habits that he may never be able to overcome. He becomes a menace to the sick and to his profession. It is one of the most dangerous forms of medical practice with which we have to contend. Experience has proved that human nature is practically the same now as it ever has been, and many of those people who are getting something for nothing will take advantage of their opportunity and without any hesitancy will abuse their rights and privileges. Just think of being called out on a cold, wet, dreary night, aroused from sound sleep, compelled to leave a warm bed and, on answering the call, find

* Read before the Johnson County Medical Society, at Warrensburg, Jan. 12, 1915.

that it was absolutely unnecessary, simply some trivial ailment, at \$2 per annum. You may have been up all the preceding night, worn and weary as you may be, yet you must go for 50 cents per quarter, to be paid ninety days after date. You may protest, but woe unto you if you do. The time will never come, as long as you follow this practice, when you can call your soul your own. A physician following this form of medical practice will soon degenerate until the public will consider the advice and services of the druggist far preferable to his. If any physician thinks he can follow lodge practice without feeling its miasmatic influence he is deceiving himself. You are aware of the effect of organized labor on the wage question. How can you expect the laborer to look on a lodge physician with any degree of respect, as soon as his attention is called to this class of labor among physicians? Has any union laborer any respect for a scab? Could you expect him to call you anything else than a scab doctor?

One feature of lodge practice that vitally concerns the members and their families is the danger to them which they incur when they employ the lodge doctor. As before stated, lodge practice cultivates a habit of carelessness and indifference in the physician's professional relation to his lodge patients. This is effected through the detrimental influence of various factors; namely, calling the doctor when unnecessary, the feeling he has that he will lose his position if he fails to answer every call regardless of circumstances and his knowledge of the fact that he is being imposed on constantly by members who abuse their privileges. The idea of coercion to any physician is certainly one of the most repugnant that the lodge doctor must submit to. It is only natural for any physician having this feeling to neglect his duty to his patients.

With these facts in evidence one can readily see where the danger lies to both patient and doctor. Waiting on a 50-cents-per-quarter patient will often interfere with a \$2-a-call patient, consequently some one must be neglected. It is obvious which one that will be. We find that this form of practice appeals more especially to the younger members of the profession and one can easily see why. They think it aids them in securing a practice quickly and again it appeals to them from the fact that their fees are usually secure and they often feel that their financial condition compels them to accept it. They do not realize that it is a step when once taken and continued very long will react to their everlasting injury. This form of practice, if I am correctly informed, now exists in this locality and very little has

been done to eliminate it. Personally I feel that it is a duty we owe ourselves, the lodges and the public to use every legitimate method we possibly can to suppress it. From observation during the short period of my residence here it seems to me that this is a very opportune time for us to take some action. Weeds are more easily destroyed while young.

A new feature of lodge practice has developed very recently that is some improvement over former methods, but is only in force here and there. This plan is something of a compromise. The lodge pays the doctor bill and the fees are said to be the same as adopted by the local medical society. A member of the lodge is compelled to employ the doctor in order to get the benefits. You can readily see that the lodge doctor has a monopoly on this practice. This method takes away the individual right of the lodge member to employ any physician he sees fit—a nice form of coercion. This method will encourage unnecessary calls, causing the lodge to pay unjust claims. View it from any point you please and your only conclusion must be that it is a species of graft which eventually leads to bad results for both lodge and doctor. No man or woman can enjoy the idea of being compelled to employ a certain physician. Neither does a doctor like to be dictated to as to whom, when or where he shall render service. It leaves a bad taste with both patient and doctor. Let us have an open field and a fair fight instead of methods that cause physicians to resort to tactics that bring our profession into disrepute in the eyes of the public. The sooner we eliminate everything that casts a shadow over our noble profession the better for all concerned. We can say advisedly that there is no other organized body of men who are constantly working against their own interests and for the benefit of humanity as does the medical profession. We are all cognizant of what we have done and are doing for the benefit of the public and yet with all our efforts we do not command the respect that we are entitled to. My contention is and has always been that it is largely our own fault.

We have always been entirely too lenient in tolerating the misdeeds of the individual members of the profession. Personally I believe that every reasonable method should be exhausted first, but when these fail we should adopt more drastic measures and enforce them with firmness against the doctor who persistently continues his unethical conduct, and make him realize that he cannot with impunity violate every ethical principle and still retain the respect and confidence of the profession. I know that none of us is perfect; we all have

our faults; yet there are some well-grounded principles in our ethics a violation of which should be met with stringent and drastic treatment. Our condoning unprofessional conduct is sometimes proper and results in good, but when a physician has demonstrated to our satisfaction that he does not intend to conduct himself as an honorable man should, it is time for us to act and show to the public that we will not countenance such conduct. Remedial measures I leave with you.

A SIMPLE AND ACCURATE METHOD FOR THE ESTIMATION OF SUGAR IN THE BLOOD

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Dr. Albert A. Epstein of New York describes in *The Journal of the American Medical Association* of Nov. 7, 1914, a method for the microchemical estimation of sugar in the blood. He employs the Sahli-Gower hemoglobinometer in the measurement of the color intensity of an alkaline picric acid solution containing sugar.¹

Following up the hint there suggested, that the color of an alkaline picric acid solution containing sugar is a function of the percentage of sugar present, I devised the following method of sugar estimation in the blood, eliminating the unsatisfactory Sahli-Gower apparatus. The method is simple, accurate, rapid and requires no apparatus beyond a few test-tubes, a centimeter pipette graduated to tenths c.c., a beaker, a centrifuge or funnel and filter paper; a 2 per cent. potassium oxalate solution, a 10 per cent. potassium carbonate solution, a 1 per cent. glucose solution, and some distilled water.

Procedure: Two-tenths c.c. blood obtained by finger prick or otherwise is taken up in the 1 c.c. pipette (graduated to tenths) and transferred to a small test-tube (1 by 10 cm. in size) in which had been placed previously about a half c.c. of the 2 per cent. potassium oxalate solution to prevent coagulation of the blood and lake it. The reagent and blood are carefully drawn in and out the pipette by suction to thoroughly mix them. The small test-tube should have its 1 c.c. and its 2.5 c.c. depths carefully marked. After mingling the blood and oxalate solution the pipette should be washed with a drop or two of water at a time and the washings added to the blood solution in the test-tube until the volume reaches exactly the 1 c.c. mark. The picric acid reagent is now added to the 2.5 c.c. mark, a few drops at a time, and with

shaking after each addition. The tube with its contents is centrifuged a minute or two, or if a centrifuge is not at hand the contents is filtered and exactly 1 c.c. of the clear yellow liquid is drawn up in the 1 c.c. pipette and transferred with washings of the pipette to a larger test-tube (1.5 by 20 cm. is convenient) and evaporated by careful boiling to a few drops. To this concentrated liquid about a half c.c. of the 10 per cent. potassium carbonate solution is added and the liquid again evaporated by boiling to a few drops. If there is any sugar present this second boiling turns the liquid to a dark red or brown, depending on the amount of sugar. The tube is now stood against the table top and a centimeter scale placed alongside to mark the 10 cm. depth, and the solution diluted to this mark.

An exactly similar procedure is now performed on the 1 per cent. glucose solution, taking .2 c.c. of this solution as .2 c.c. of blood had been employed. When the final dilution of this glucose solution, worked through the oxalate, picric acid and potassium carbonate stages, has been obtained to the 10 cm. mark in a test-tube of the same dimensions as the one containing the blood solution, an empty tube also of the same dimensions as the other two is placed alongside of them held in the left hand. The three parallel tubes are now held with their curved bottoms immersed to a depth of a centimeter or two in clear water in a beaker in a good light. On looking down the tubes the empty tube will appear colorless, the one containing the blood solution will be faintly yellow, while the one containing the glucose will be of a much deeper yellow. Still holding the empty tube and the blood tube in the beaker the contents of the glucose tube is carefully poured into the empty one until the tint on looking down into the tubes exactly matches that of the blood tube. The depth in the third tube measured by the centimeter scale placed against its side as it stands against the table will at once give the percentage of sugar, as each centimeter in depth represents $\frac{1}{10}$ per cent. sugar, the 1 per cent. glucose having been diluted to a depth of 10 cm. in the glucose tube. Thus if only a half c.c. of the glucose dilution had been added to match the tint of the blood solution the indication is that the percentage of sugar in the blood was one-half of $\frac{1}{10}$ per cent., or .05 per cent., which is the average content of normal blood. Results much above this would indicate a hyperglycemia. Flat-bottomed test-tubes give slightly more accurate results in cases of small sugar content, but if they are not at hand, the ordinary forms will serve. Or flat-bottom tubes may be made by heating the common tubes at their base in a bunsen flame to redness and pressing them against a glass surface until flat.

3338 Broadway.

1. Picric "acid" is a misnomer, for chemically it is not an acid but a phenol. Its solutions may therefore be made alkaline by the addition of any of the usual alkalis.

IN MEMORY OF DR. WASHINGTON E. FISCHEL

A meeting in memory of Dr. Washington E. Fischel was held in the Assembly Hall of Washington University Medical School on Sunday, Dec. 13, 1914, at 4 o'clock. Acting Chancellor Frederic A. Hall presided and addresses were made in commemoration of the work of Dr. Fischel as a physician, a citizen and a teacher by Dr. John Blasdel Shapleigh, Mr. Frank V. Hammar, Dr. Abraham Jacobi and Chancellor Hall.

Chancellor Hall opened the exercises with the following remarks:

We are assembled to-day to honor the memory of an eminent physician, a public-spirited citizen, a warm-hearted friend, a noble man. By our presence and our words we bring to this room a tribute to the life and character of the late Dr. Washington E. Fischel. Months hence this building and these grounds will be dedicated in formal manner, but in no slight sense we to-day dedicate this room to the ideals for which he stood—a room in which he himself would rather have spoken than in any other room in the entire world. His persistent efforts had no small influence in making these buildings possible. In this school and the adjacent hospitals was his affection planted deep; here his heart's interests centered. With loving hearts, then, appropriately here do we pay tribute to one who thus served the public.

I feel that it would be to mar the exercises were I to introduce the several speakers. Most of them are familiar to you all, and he whose face may not be familiar bears a name known through the medical world. To him especially is gratitude due that at his advanced age, in inclement weather, he should come so long a distance to speak for his friend and ours. Those who will address you have been selected from among Dr. Fischel's associates in the medical world and in philanthropic and educational enterprises. Each will speak as he may wish, but however inadequate their words may be, they testify to a desire on the part of everyone to honor the memory of him in whose name we meet.

WASHINGTON EMIL FISCHEL

AN ADDRESS BY JOHN BLASDEL SHAPLEIGH, M.D.

To have practiced medicine in this community continuously for forty years; from small beginnings to have built up a large practice; to have been for years acknowledged by his colleagues as a leader, and to have commanded their respect through high professional ideals and their esteem through uprightness of character; to have gained a high and more than local reputation in his chosen department of practice; to have rendered efficient and untiring service to his fellows for more than a generation, and to have exerted a positive influence for good among us; these are evidences of an active, useful and successful life, and they are the record of Dr. Fischel's professional career.

Meeting here to honor the memory of one so prominent in his profession, and whose reputation in medical circles in the East and in Europe made him the representative of internal medicine in this city, it is fitting that something be said of his work in medicine and of the interests and associations that gave it its conspicuous success and value.

Dr. Fischel was born in this city on May 29, 1850. He graduated from the St. Louis High School in 1868, and in 1871, when not quite 21, received from the St. Louis Medical College the

degree of Doctor of Medicine. After serving as intern in the St. Louis City Hospital he continued his post-graduate studies at the universities of Prague, Berlin and Vienna. He returned to St. Louis in 1874 and began the practice of his profession.

It is only under exceptional conditions that a physician steps at once into an extensive practice. Usually its growth, though cumulative, is slow, and the early years are times of trial and struggle. This was true of Dr. Fischel, but he won his way to success by virtue of qualities that made failure impossible.

Who that knew him failed to feel his magnetic energy! Who could resist the charm of his greeting, of the cordial handclasp and the gracious consideration he bestowed on all! Who of all his patients did not know the comfort and encouragement his visits brought! His presence in the sick-room seemed to radiate cheer and courage; his confidence and strength brought renewed hope.

There are personalities who unconsciously command our confidence and upon whom we instinctively rely. It is the privilege of strong natures thus to impress others and few have possessed this power in greater degree than did Dr. Fischel.

Ask the rich why they chose him as their physician. They will tell you of their confidence in his ability; of his care and watchfulness; of the comfort and encouragement his personality inspired. Ask the poor and they will tell you not only of his skill, but of his generous kindness and of his consideration for their needs. And so while his ability brought him many patients, both rich and poor, his personal qualities and his interest in their welfare bound them to him and gained for him their loyalty and friendship.

Dr. Fischel valued this feeling on the part of his patients very highly. He wanted to be, and sought to be, the family friend as well as the family doctor. That in so many homes his death is felt as a personal grief, shows how well he succeeded.

Unquestionably, the first duty of a physician is to his patients. His time, his strength, his skill belong to them, and their need should be the measure of his service. He owes it to them to prepare himself for his professional work in the best possible manner and by continued study to keep himself informed of the constant advances made in medical science and practice, to the end that those who intrust themselves to his care may receive the benefit of what is found good in the new methods of diagnosis and treatment. These obligations Dr. Fischel met fully. Responding freely to the demands of his patients, he spent himself unreservedly in their service. Always informed as to the newest in medical research, he was ready to abandon the old and adopt the new whenever his judgment and experience confirmed the new as better.

Of almost equal importance to his duty to his patients is the physician's obligation to his profession. It is incumbent on him to uphold its noble traditions and to oppose all things that might lessen the dignity of, or bring reproach upon, a calling that is humanitarian and not commercial. He should share with his colleagues the results of his own experience and investigation by contributing to medical literature, or by work in medical societies, or as a teacher.

Dr. Fischel's contributions to medical literature were mostly in the form of papers and reports to various medical societies and not preserved in permanent form. This is to be regretted, for his thorough knowledge and clear views of medical subjects, his accurate judgment and his wide experience would have made anything from his pen most valuable.



CAT.

W. E. Fischel.

In his earlier years Dr. Fischel was active in the affairs of the St. Louis Medical Society, holding the position of secretary in 1878 and of treasurer from 1880 to 1884. He was also a member of various other medical societies both local and national, whose leaders became his warm personal friends.

His greatest interest, however, centered in the cause of medical education, and as teacher and faculty member he rendered perhaps his most valuable service to his profession. In both capacities he filled a prominent place in the history of the St. Louis Medical College and the Washington University Medical School during the last fifteen or twenty years. His connection with this institution began in 1881 and continued unbroken until his death.

In 1881 he was made lecturer on therapeutics and two years later became a member of the faculty, being called to fill the newly created chair of hygiene and forensic medicine. In 1886 he was made professor of clinical medicine, which position, with occasional change of title, he held for twenty-eight years.

To his work in the clinics and the wards of the University Hospital he brought the same energy and thoroughness that characterized him in all he did. He loved this work and counted no sacrifice too great for its faithful performance.

For the following estimate of Dr. Fischel as a clinical teacher I am indebted to Dr. Albert Taussig, who was for years associated with him in the work.

"The many years during which I was associated with Dr. Fischel, first as pupil and then as assistant, served to fill me with an increasing admiration of his wonderful ability as a teacher of medicine. While he frequently employed the Socratic method of leading the student by skilful questioning into correct paths of observation and reasoning, and while he occasionally indulged himself in a systematic discussion of some special disease or group of diseases, his favorite method of teaching, and the one in which he was most successful, was somewhat different. With the patient before him, and an attentive group of students seated round about, he would first make clear the noteworthy features of the case under discussion and then draw upon an unusually retentive memory to illustrate, by analogy and by contrast, in the discussion of other somewhat similar cases, the various aspects of the case at hand. Such a presentation of the subject could not always be entirely systematic, but this fault, if it was one, was more than counterbalanced by the resulting vividness and concreteness. He was an eager student of medical literature and was broadened by frequent intimate personal contact with the great clinicians of this and other countries, but it was when drawing upon his own vast personal experience that his lectures became most illuminating and inspiring.

While always insisting upon the fundamental necessity for correct diagnosis, he never allowed his students to forget that diagnosis is never more than a means to an end and that the patient's welfare. Thus his clinics were eminently practical, in the best sense of that much misused term. In his own practice his most striking characteristic was his unfailing resourcefulness in the face of an emergency. Something of this quality it was his constant aim to impress upon his students and his classes were sure to carry away with them not only a deep sense of their personal responsibility to their patients, but many a definite suggestion for later use in their own work."

As a member of the faculty he rendered many valuable services to the medical school and had much to do with forming and directing its policy and plans. In the years following the

death of the dean, Dr. H. H. Mudd, he was one of the leading forces in the faculty, and to his zeal and devotion to its interests the school owed much. Again, in 1910, when the complete reorganization of the medical school by the directors of Washington University was undertaken, his advice was sought, and his influence and earnest cooperation were of great assistance in bringing it to a successful conclusion.

Proud as he was of the past record and reputation of his alma mater, he saw in this reorganization the promise of greater things and he regarded it as the first step toward placing her in the front rank of university medical schools. He looked forward to seeing the fulfilment of his aspirations begun by the completion of the new buildings for the medical department. Almost to the last he hoped to be able to take part in the opening ceremonies, and it was a bitter disappointment when he realized that this was not to be.

When in 1883 Dr. Fischel became a member of the faculty of the St. Louis Medical College he became also a member of the Medical Fund Society. He was secretary of this society from 1886 to 1912, and its president from 1912 till his death. I think that of all his connections with medical organizations Dr. Fischel held none dearer than this. As the existence of the Medical Fund Society is not known outside a comparatively small circle, a few words regarding it may not be out of place as explaining his feeling for it and as demonstrating the unselfish devotion to the cause of medicine of its founders.

The Medical Fund Society was incorporated in 1872. At that time practically all medical schools were proprietary enterprises, without university connection and under complete control of their respective faculties. The cost of conducting such a school, there being no salaried teachers and no laboratories or hospital to maintain, was relatively small, and each year the net profits were divided among the faculty members. This plan was in force at that time in the St. Louis Medical College. Realizing the need for better medical teaching, and especially the necessity for clinical teaching in hospitals and dispensaries under the school's control, the members of the faculty of the St. Louis Medical College formed the Medical Fund Society, whose object was the accumulation of a trust fund to be used for this purpose, and primarily for the purchase of the property on Seventh and Myrtle streets, where the St. Louis Medical College was then located. In order to accumulate this fund, each member pledged himself to pay to the society each year his share in the profits of the medical college. Since then, except in the case of salaried teachers, the members of the faculty have given their services without compensation.

The work of the Medical Fund Society was invaluable in the advancement of medical education in St. Louis. By the pecuniary sacrifice of its members the society was enabled to acquire first the property at Seventh and Myrtle streets, and later to erect the building on Locust and Eighteenth streets, so long occupied by the medical school and now being given up for the new buildings provided by the university for its medical department.

In 1912 the Medical Fund Society transferred this Locust Street property to the Washington University on the latter assuming its bonded indebtedness. The incorporators of the Medical Fund Society were A. Litton, J. B. Johnson, E. H. Gregory, John T. Hodgen, J. S. B. Alleyne, E. F. Smith, L. C. Boisliniere and John J. McDowell, and among its later members were Henry H. Mudd, Gustave Baumgarten and John Green. These are names the medical profession of our city holds in proud remembrance, and they are written high upon its roll of honor.

Sharing the ideals of these men, himself a partner in their labors and in their self-sacrificing loyalty to their conception of professional duty, it is no wonder that Dr. Fischel cherished the traditions of this society so dearly and counted his membership in it so great a privilege and honor.

But besides his duty to his patients and to his profession, the physician has an obligation to the community in which he lives. In this respect Dr. Fischel was not found wanting. He was keenly interested in all matters concerning the public health and was always ready to lend his support to any civic enterprise, or any philanthropic or educational endeavor that in his judgment was of value.

He was for many years a member of the medical staff of St. Luke's Hospital, and was connected with the Barnard Free Skin and Cancer Hospital from its organization. This phase of his medical work will, however, be the theme of another speaker.

While what I have said may have given you some idea of the professional ability and skill of Dr. Fischel; of the esteem in which he was held by his colleagues; of his reputation and success and of the value of his medical work, I am conscious that it has failed to bring before you the real Dr. Fischel. Words cannot do this. Only by meeting him face to face and receiving his hearty handclasp and his genial, courteous greeting; by noting the tactful kindness that made you feel that your affairs were of the first importance to him; by seeing him in the sick-room or the hospital ward and observing the gentle thoroughness of his examination of his patients and by feeling the atmosphere of strength and cheer he brought with him; by seeing the wan face brighten at his coming and the tired eyes light up with new hope and courage; only by such personal knowledge is it possible to have known Dr. Fischel as he was—a true gentleman and a great physician.

And so the summons came, as he himself would have chosen, in the full tide of his work and in the maturity of his strength, before advancing age had lessened his activities or limited his usefulness.

WASHINGTON EMIL FISCHEL

AN ADDRESS BY FRANK V. HAMMAR

As president of the Barnard Free Skin and Cancer Hospital, it is my very great honor to speak of Dr. Fischel's connection with various philanthropies in this city. It is very difficult to give a detail of the constructive philanthropy of a long life devoted to the welfare of the people and the upbuilding of institutions for public benefactions.

For a true interpretation we should have to consider practically every hour of the span of such a life; for no day passes that does not make its record of some good done to humanity. Whether the execution of his work was a single service to one person, or whether it was a service instigated by himself and carried out through the instrumentality of many other men, the human mind grasps but one unit of endeavor; but there is a psychological appreciation of proportion, and the public holds its corresponding and comparative judgment of a man's personality, for his whole work.

The element of love among the people is typified by father and mother. The words have come to mean love and service, daily and continuously. If father and mother are spoken of with such an understanding, the synonym of Dr. Fischel is super-

father, for not only did he represent love and service in his family, but in hundreds of homes and in thousands of instances. It was no uncommon occurrence to hear that without the knowledge that Dr. Fischel was within call the dread of possibilities and the fear of personal peril transcended the possibilities of father and mother service, and peace and relief were impossible until such burdens were shifted onto the shoulders that had proven in countless instances to be adequate to the demands. With this knowledge of his services there was the soul satisfaction that whatever human knowledge could accomplish would be done at whatever sacrifice of his personal effort.

He brought healing, cheerfulness and contentment wherever he went. Such a relationship cannot be valued in terms of visits or consultations or fees of money, for the poor were quite as important to Dr. Fischel as the rich and received the same careful, devoted consideration and the invaluable benefit of his great scientific knowledge. And such a relationship proves the personality of the man who can sink himself in a sincere effort in doing good and who accepts as a personal responsibility, not only healing, but the greater and unpurchasable boon of sympathy and fellowship in pain and sorrow. Such service is without price, and for such a life Dr. Fischel was so well beloved by the community as a whole.

The very character of his labors was such that he could not share his burden with others. He shared the pain and suffering with his patients, but the great responsibility of conserving human life and happiness he carried alone. That the responsibility was great and distressing to one of so tender a heart, was very apparent to those who knew him. It was acute personal suffering, and in his supreme efforts, which could not in their very nature be always successful, he could only paraphrase the sand diviner, "Only God and I know what is in my heart." But we knew, in a way, what he suffered on such occasions and we loved him for it.

If such results are the reward of effort for individuals, there is a correspondingly greater reward in the opinions of mankind for such civic service as he gave to his native city. So far as I know, there has been no movement or organization proposed in this city that had for its object the good of the people as a whole in which Dr. Fischel was not immediately interested. He gave his heart interest and he gave gladly, not only of his own professional knowledge, but what was of equal value, his powerful abilities as an organizer and as an executive. He created opportunities for doing good; he brought them to fruition, and throughout their term he so guided and governed them and conciliated contending factions, that his presence on any board was a source of exceeding gratification and assistance to his fellow associates and a very necessary factor to success. Further, because of his fellowship and his standing in the community, his name in connection with any movement gave it immediate prestige, both as to highest professional qualification and also as a guarantee of highest business probity. He was a man who did things. He was a splendid type of dynamic energy in life's affairs, one that was remarkable even in the community of virile men. He was a tireless worker, and few, if any, men gave more hours of concentrated thought and untiring activity to the demands of his profession.

In 1905 it developed that the free institutions of St. Louis would not give adequate care and attention to those unfortunates suffering from cancer and skin diseases, especially in the advanced stages. In association with other broad-minded men

and women who felt the need, Dr. Fischel was instrumental in organizing the institution now known as the Barnard Free Skin and Cancer Hospital. He labored long and earnestly in its formation, in the detail of its organization, both in the hospital itself and on the board of general direction. He gave not only his time, but his money, and through the power of his influence he brought such weight to bear that the institution became an immediate financial and professional success. As the need developed into greater proportion, his interest also expanded, and there was built up the present splendid success that has done so much for the alleviation of pain and the comfort of those unfortunates of our city. To the day of his death he was chairman of the medical board of the institution and a most valuable assistant on the board of directors.

In 1910, through Dr. Fischel's instrumentality, the department of pathology was added to the hospital. He took the greatest possible interest in this branch, having for its object the study of the cause and cure of cancer. He was unfaltering in his endorsement of this purely scientific endeavor for the general uplift of humanity. And it appears to-day as one of the most tragic ironies of fate, that the very condition he fought so hard to overcome for others should in the end have overcome him. "He could save others, but himself he could not save."

It is with a due sense of our obligations to him that I, as president of this hospital, make grateful acknowledgement for such services.

There are two other institutions in the city that are so intimately associated with Dr. Fischel that we can hardly think of him and not connect him with them—the medical department of the Washington University and St. Luke's Hospital. At the very beginning of his life as a physician he became greatly interested in the success of the St. Louis Medical College.

He was very active in bringing about the consolidation with the Missouri Medical College, and appreciating at an early date the advantages that would accrue from association with the Washington University, his energy and influence were instrumental in establishing the present medical department of that university, which has such infinite promise for the future. He was a member of the faculty and professor of medicine for many years. Of equal importance was his association with St. Luke's Hospital. He was a member of the active staff during the early years when the hospital was on Nineteenth Street and Washington Avenue. Through the need for greater and more extended facilities, resulting from such excellence of practice that only such men as Dr. Fischel can give, the institution expanded into its present splendid establishment. For thirty years he has given it devoted attention, both as a physician and for some years on the board of general direction. He was vice-president of the Tuberculosis Society, director of American School of Hygiene, member of the National Association for Relief and Prevention of Tuberculosis and of the Association of American Physicians.

So our city benefited greatly through Dr. Fischel's life. We have lost a most valued member of our philanthropic society, but his life's results are an inspiration to all of us, and while we shall miss him greatly, his accomplishments will live and encourage those of us who at times feel the discouragement that must always follow in some degree our own greatest endeavors of success.

Dr. Fischel was not a man to seek the applause of men; he did not court publicity, but, like many other men, his good works

were covered with a mantle of modesty and but few knew of them, but they were the medium by which many days of suffering were relieved and many lives made comfortable and happy, which without him would have been destitute and despondent.

He has gone from among us and his passage from this world to a brighter one was accompanied by the sighs of the multitude to whom he had given love and service, and they carried him as a benediction to the very steps of the heavenly throne.

WASHINGTON EMIL FISCHEL

AN ADDRESS BY ABRAHAM JACOBI, M.D., LL.D.

Ten years ago Dr. Washington Emil Fischel invited me to address the graduating class of the medical school of Washington University. He requested me to select for my remarks a topic that would be of some use at and after the commencement of the young doctors' new lives. It struck me that if I drew for them a mental picture of the very man who honored me with an opportunity to speak to his young friends and pupils, I should succeed in delineating to them whatever was choicest in practical medicine and pure citizenship. My subject was: "The Modern Doctor." With my mental eye on Fischel, I could have depicted for them the assiduous student, the ever-occupied and self-sacrificing family practitioner, the ethical consultant, the successful teacher, the public adviser who renders services too valuable to be paid for with money or public places, and the sociologist who teaches eugenics and virtue to the nation and its governing powers. Indeed, there was no class of people he did not benefit, no exalted virtue he did not practice.

Fischel died much too soon, but his life was long enough to experience many things in the practice and the teaching of medicine. Of both he had full knowledge, and to the evolution of both he contributed more than an average share.

Dr. Fischel knew the medical schools of this country when the curriculum extended over two short seasons only. The didactic lectures of one year were repeated the next; bedside instruction, there was none; a few sick were presented in a weekly hour to students gathering in the amphitheater; the example of real clinical instruction attempted in the smallest of the New York schools, the Medical College of East Thirteenth Street, which had to close its doors toward the end of the Civil War, remained without permanent results. Gradually the two-year course was replaced by one of three years, of four years; and the progressive changes in medical instruction caused by restrictions in matriculation and the introduction of state examinations are well known. In most of these movements Fischel, who had spent years in German universities, participated modestly, but effectually.

The work of a family physician underwent important changes during his active life. Those who study at present, also those who have practiced only a decade or two, cannot appreciate the great difficulties and grave responsibilities of the early practitioner. There was no Lister, no antisepsis, no asepsis; but much erysipelas and gangrene and misunderstood fever, many unfathomed and sudden changes in the course of an infectious epidemic, and more unexplained deaths than at present.

Eighty years ago it was ascertained that of thirty-five sick thirty-four would die, while at the present time the same number will recover. Pasteur and Lister stopped that misery. Safety

increased from year to year with corresponding changes in methods of diagnosis and practice. They are not all praise-worthy. The safety due to soap and water, corrosive sublimate, peroxid of hydrogen and tincture of iodine, combined with general and local anesthesia, have created a sad temptation to perform operations of doubtful value or dignity. That is not as it should be. All that glitters is not gold. But without glitter there is much gold, and more genuine gold will come to the surface. Fischel's vast experience and impartial judgment appreciated all that. The men who worked and taught like him accepted willingly the new additions to diagnosis and practice, but did not substitute them altogether for their old possessions. To make a diagnosis they did not wait for the necropsy or a laparotomy, which permits a more or less direct inspection of a cavity. They had eyes in the tips of their fingers, and their most important instruments of precision were their brains and their practiced eyes and ears. May the men who live now never forget that there were great doctors more than fifty years ago.

The men of that period knew all that was known at that time. They were fully modern then. They remained modern while they added the results of bacteriological and, later on, chemical research to their stock of knowledge. Having been reared in the experience of centuries and accustomed to the means of cure and relief, they did not find it difficult to learn the new gospel. Fischel belonged to that class. While thus progressing, he was a circumspect and successful teacher, general practitioner and consultant, benefiting through his comprehensive gifts both the student classes and the public. Such men are not frequent even at present.

Still, there is no reproach to the men of industry and genius who specialize for research when we acknowledge that their horizon, while they work and discover and teach, may become narrow. It is true, medicine requires their work; they benefit medicine, which is being built up on the cooperation of many. They do not, however, while furnishing foundation stones and pillars on which the edifice of scientific modern medicine is erected, contribute to the art of medicine. It is the art of medicine, however, which is needed and demanded by mankind and must be taught in schools. That was, as I learned from Fischel's lips, his creed and faith.

The subject of one of our late conversations was the relation of the physician to the public. Dr. Fischel's activity in the practice of medicine was not limited. He began his career as a general practitioner. His heart was big, his knowledge rapidly increasing, his interests extensive. We looked — he and I — on the family physician as the prop and staff of the profession and of the country. It is the general practitioner who in his county and state medical societies suggested and enforced improved instruction and better schools. Of that kind was his practice for a long time. It was in no way specialized. Whenever he required specialized skill, he knew where to find it and when to advise it. He earned the gratitude and love of those whom he relieved or restored, in their variegated ailments, and that of their relatives and friends. He was looked up to as the benefactor of the multitude. He treated patients of more than one generation — grandparents, parents and children formed his clientele. He knew their bodies and souls; they trusted him and loved him as only a doctor, as no clergyman or lawyer was ever loved or trusted. He was their doctor, their friend, their confessor, their adviser in health and in sickness, and shared their secrets. That is why he could be successful in relieving both their physical and

spiritual needs. He appreciated that whoever expects to aid and cure his neighbor must first understand him and that, like the inequalities of individual features, their natures are unequal. As he was gifted both with intuitive observation and philosophical insight, he was readily credited with being the godly physician of whom Hippocrates tells us.

The criticism of one of the great physicians of the Atlantic Coast found no favor with him, nor any justification. According to the latter, the family physician has no longer any defensible existence; ailments should be handled by a specialist whose modern accomplishments must be relied upon in adversity.

To arrive at that conclusion he committed the chronological mistake of asking the family physician of fifty or seventy-five years ago to grapple with the case of to-day. The family practitioner of fifty years ago was the accomplished physician of his time. Year out, year in, he learned what the men of great opportunities and genius and research discovered for him and applied it as they could not have applied it themselves. Forty years ago, thirty, twenty, ten years ago he learned constantly both the science and the art of medicine. If not always ahead, he was ever abreast with and never in the rear of the active medical column. My friend in New York had in mind the sluggard in practice, and not the progressive, clear-eyed, and watchful practitioner who has not forgotten the old tools of his art while welcoming new ones; and he did not realize the fact that there is many a patient who is not cured by medicine but by the doctor.

The great danger connected with modern teaching and modern practice is not the acceptance in an individual case of the mere laboratory reports of the examination of secretions, excretions, blood and artery pressure, and the employment of the many new instruments of precision, but the teaching in some schools and the tendency on the part of many ill-guided students to adopt as complete a diagnosis based upon mere laboratory tests, a sort of absent treatment. The general practitioner, coming from such a school or imbued with such habits of laziness or self-indulgence, is very apt to rely exclusively on the genuine or alleged competent or defective laboratory. Dr. Fischel complained that the instruction of many schools neglected the most important instruments of precision, which are the brains and the educated fingers, ears and eyes, and also the correct observations of the historical and contemporaneous masters of our art. He feared lest the young disciple and practitioner should no longer learn how to judge of the pulse — its softness, hardness, frequency, alternation, irregularity — and rather rely on the sphygmograph alone, though handled by some one else. The modernized pupil is liable to trust in an electrocardiogram alone in place of an old-fashioned but trustworthy auscultation, and to refuse to examine a patient and his history before sending him to the radiologist. What Fischel looked forward to was the whole of clinical instruction and independent bedside study for the future "therapos," that is, the servant of the sick. He was anxiously awaiting the time when the Washington University Medical School, reinforced by the intelligent generosity of gifted lay philosophers and enjoying vastly improved facilities, would turn out only such physicians as combine new tools and modern methods with preexistent long-cultivated experience.

His life was divided between practicing and teaching. That is why we easily understood one another on questions connected with schools and universities. To him the latter was not a place to obtain a diploma or a title, but one of general philosophical education and spirit, of teaching and of research.

The medical school is part of the university, with all the breadth of its principles. That is why medical research should be encouraged in a medical student, to a certain extent, at least. Every medical student should be taught the methods of research, but the methods only. Only those few of the class who mean to spend their lives in it, should be taught to invade and occupy the territory of the theories and practice of mere science. That takes all of his life. No mere student of medicine who prepares for practice should undertake to spend the years of his curriculum on deep research.

Medicine, which is to be dedicated to the service of the people, sick or well, requires all the time and efforts of the most gifted. "Eines schickt sich nicht für alle." Not everything is proper for everybody.

One day I asked him to what extent he and his school were teaching therapeutics, physical and medicinal. He regretfully admitted that many medical schools he knew were apt to forget that their principal reason for existence was the furnishing of good doctors for the cure or prevention of diseases. These count by the hundred; their causes are legion, their manifestations many. Only of late are our student classes being taught hygiene as a preventive, the use of cold and warm air and water, the chemistry of food-stuffs, the physiology of digestion, the effect of darkness and light, the ill effects of poisons, such as alcohol and tobacco. The gravest mistake of our instruction is the neglect of medication and its administration. Meanwhile, among the public the ranting against drugs ranks as a modern curse. Hatred of drugs is inscribed on the flags of the quacks and sectarians who have succeeded in demoralizing public conscience. Our legislators are constantly besieged with and conquered by bills to legitimize ignorance. New sects apply for recognition solely on account of their not using drugs. They insolently plead not guilty of knowing and employing the best friends of the sick. Perhaps, however, they belong to the school of Tatian, who fifteen hundred years ago taught that remedies were permissible for heathen, not for christians. Unfortunately, the public, including legislators, gather their pseudomedical maxims from the young reporters who concoct part of our daily press from the whims of humorous medical men bent upon the mere entertainment of their audiences, upon cheap applause and financial rewards, and from the wholesale tradesmen who swamp the markets with circulars eulogizing proprietary medicines and nostrums. What would you do without the kidneys that relieve exhausting pain in peritonitis, stones in the kidneys and gall-bladder, nervous exhaustion; without the quinin, which cures your malaria; the mercury, iodine and salvarsan, which relieve syphilis; thyroid extract, which cures myxedema and cretinism; digitalis and strophanthus and caffeine, which stimulate or strengthen the heart; theobromine and nitrite, which regulate blood pressure; antitoxin in diphtheria, tetanus and typhoid; without arsenic, that great nutrient and nerve remedy; iron, the regenerator of impoverished blood; calcium, adrenal and thymus extracts, and the dozen of alkalies? And what will your pupils and practitioners do with all of them unless they are taught how to prescribe them better than the officious drummer with the wagging tongue?

Though our meetings were too few, Dr. Fischel gave me opportunities to admire his humanitarianism. He expressed the wish that all our medical students and young practitioners could always appreciate the frequency with which suffering is increased by their carelessness. Can you make a correct diagnosis and

fashion your prognosis? If you do, please learn something more—and more important—a hasty word is a dagger you thrust into the soul of the sick or dying. Your patient asks you: "Am I consumptive?" and his scared look informs you that he fears your answer. In place of telling him that he is consumptive, and so driving him to despair, what will you tell him? Tell him: "You have tuberculosis in your lungs. Many such cases get well. Almost no one dies in old age who has not at some time or other had tuberculosis and got well. By care and good luck your tuberculosis may improve or get entirely well. If you get worse, however, your tuberculosis might indeed turn into consumption. Now, see to it, not to get worse, and you may learn how to avoid that." That man has a better chance to get well, for you have given him hope, than which there is no better stimulant for his nerves, and the courage to do something for himself and to give the lie to one of our whimsical celebrities in the East who claims that the treatment of consumption is opium and lies.

Another patient has been told he has cancer in his liver. He knows the term and that cancer is fatal. "How long have I to live? But doctor, is it cancer, as they told me?" "I do not know how long you will live. I do not even know how long I shall live. But you would do wrong to neglect yourself. You have a tumor, you feel it yourself; that is all you need know and fear. I advise against an operation at this time, for medication can do a great deal for you." So it can, young man; but if you tell him he has cancer he will die soon after, having spent his remaining days in constant fear and agony; while the hope, born of uncertainty and sympathy, will encourage him, make him live longer, and when the time comes he will die in comparative comfort. Which do you prefer? I know what I prefer, and to me it was a great satisfaction to learn from Fischel that I was correct. This was his way, and it is the way of those who know how to differentiate between a medical mere man and a medical humanitarian. Unfortunately, humanitarianism and altruism are not inscribed in the hearts of all those who have M.D. engraved on their diplomas. The nature of man is liable to be narrow. Even heroes of intelligence do not always combine practice with science and humanity, like Virchow, who succeeded. He claimed that medicine failed in its calling unless it became the property of mankind. Not all, even great practitioners, join the warmth of the heart to their diagnostic acumen. That is true, though what superficial persons say is not correct, that the doctor gets cold and callous with advancing years. To me it is a consolation to have experienced the reverse in many colleagues, though not always to the extent in which cool judgment and ripe experience and warm sympathy were joined in Fischel.

Fischel was a humanitarian by temperament, and by innate and acquired wisdom. This great physician who remained a general practitioner because he could not limit himself to a specialty; who was a loved teacher, because even the youngest disciple knew or guessed the breadth of his teacher's interest, became the admired and much-loved fellow-citizen because his inclinations and wishes and activities prevented his broad nature from confining himself to the mere practice of physic.

There was more to him. I wonder whether he himself was aware of the weight of his words and the influence of his argumentation. What his personality meant in local and state affairs of medicine, you know best. In the preparation of what was meant to become the World's Congress of Medicine in connection with the Exposition of 1904, Fischel's advice was anxiously sought for and conscientiously followed. That his wisdom and

moderation and energy would have continued to be of vast influence in the perfection of your Washington University, I doubt not.

Everyone felt that to praise him as a great and good physician rendered no adequate justice. I wonder whether at any time this owner of a thousand friendships had any enemies. It is not always true that a strong man is never without them. After all in Fischel's character, strength was not the only prevailing element. Warmth and sympathy predominated to such an extent that he may have lived without such friction as his winning amiability could not easily palliate. In a multitude of his traits the idealism of many great Americans seems realized. That idealism I have found in the make-up of Fischel. In him it took at an early age the shape of altruism and humanitarianism. Social questions were closely allied in him with the needs of medicine, which never will fulfil its destiny unless it makes the welfare of individuals and the community its sacred duty. So there are many reasons why his name will live.

It will be an evil day for St. Louis, for Washington University and the medical profession if he and his like — if there be any — and his ideas be forgotten. In his modesty he never cared about display or notoriety or publicity. But without a tangible effort men like him leave their mark. Whoever has an interest in the public welfare will rejoice that this man has lived and worked amongst us. Many may feel as Tacitus says of Agricola, "*Neque lugere neque plangi fas est.*" No mourning or loud complaining is proper. The appropriate feeling amongst those who care for humanity and mankind and appreciate the fact that an influential and withal lovely man lived with us and for us — that feeling will be profound gratitude.

WASHINGTON EMIL FISCHEL

AN ADDRESS BY FREDERIC A. HALL, LL.D.

As presiding officer of the occasion I have officially represented Washington University, with the development of whose medical department Dr. Fischel was so intimately identified. It now becomes my privilege to appear in an additional capacity. The committee in charge requests me to speak of Dr. Fischel and his work as a teacher in Washington University. Since the particular topic reached me rather late, I have taken the liberty of speaking from the standpoint of a patient and friend, briefly referring to him as a practicing doctor and as a man.

He was my physician, in whose medical judgment and prescribed treatment I had implicit confidence. He was my friend, in whose counsel I found security, and in whose companionship I found delight. For the past two years especially advice was needed, occasionally of a delicate nature, as I endeavored wisely to administer affairs quite foreign to my previous experience and dealing with matters of present and future importance. Of all my acquaintances in the medical profession, whom it is my good fortune to count my friends, there was no one to whom I more often turned for disinterested guidance. He was familiar with every advance step in the marvelous expansion of the medical department during the past few years, an expansion in whose benefits he could, at best, have slight share and that for no long time. As the splendid preparations rapidly reached maturity his sustained interest was the professional satisfaction one might naturally entertain in the realization of a life-time's dream, a

dream realized too late, however, for any material advantage to him.

His advice in matters pertaining to the department's welfare was always disinterested, but never impersonal. He could and did separate himself as he separated his interests from any such proposition, but in every discussion involving men he never lost sight of the fact that a man's interests were at stake. His consideration for the feelings of others was most pronounced. If a measure seemed unavoidably to cross the purposes and plans of another, he invariably considered how the measure could be adopted with the least possible injury to those concerned. Nothing pained him more than the alienation of long-time medical friends, when differences in judgment as to what was best made united effort no longer possible.

Dr. Fischel had but one enemy, the double-headed monster, disease and death. Against disease and death he waged uncompromising warfare. Disease and death impede man's usefulness and mar his happiness, therefore disease should be conquered and death held in check to the latest possible moment. He fought disease as one would resist an armed foe on the battle-field—a fight to the finish, utilizing every instrument and every device which preparation and skill and strategy and determination could command. He would not admit that death was inevitable until it actually came, for as he once remarked: "Death is a demon, ending a man's career and harassing the feelings of his friends. I hate death with all my soul." With such a disposition toward the enemy of mankind he felt it to be a sublime duty personally to equip himself by close study, by the recognition of every sane prevention, by the adoption of sound remedies both in medicine and surgery for waging a successful warfare.

Difficulties or obstacles whether material or individual never swerved him from his aim in life. Those who were familiar only with the genial smile and gracious manner, so characteristic of him, failed to know the man if they did not realize that behind the pleasant word and gentle ways there lurked a determination and a clear sense of duty which could be sternness personified when necessary. The final development of this medical school and the hospitals adjacent has come through vicissitudes and episodes, some unavoidably embarrassing, whose history will never be written; but they were of the nature to try the hearts of the stoutest. Yet through them all Dr. Fischel held an unswerving course toward the desired goal, sacrificing even friends if need be for the accomplishment of the ultimate purpose.

Dr. Fischel had personal characteristics which added greatly to his efficiency as a family physician; his genial disposition was an invaluable asset. You who have called him to your homes when distress and anxiety hung dense as a cloud will recall the sense of security which was at once established by his cheering words and hearty handshake. When he entered the sick-room one seemed to realize that everything within the possibilities would be accomplished, and that somehow even the impossible might be attained; such was the confidence that his very presence and manner inspired.

His ability as a diagnostician was extraordinary. He instinctively got at the character and the source of the trouble. Yet what seemed almost an intuition was doubtless the result of painstaking care and penetrating insight. His respect for the modern laboratory method of determining disease was profound. I have often heard him remark that he doffed his hat to those scientifically trained in the laboratory, and he was keen to take advantage of their skill and knowledge in order to confirm his

own judgment, but his confidence in reading a case never wavered and was rarely amiss.

Again, he never lowered the dignity of his profession to the level of purely commercial interests. A physician of his eminence and especially of his gracious manner could easily have been led into rarely lucrative fields had he allowed himself to do so. From what I know of the man, I doubt whether the fee ever influenced his acceptance of a case or his subsequent treatment. I know of instances where large fees would have been reasonable and would have been paid cheerfully, yet no bill could be obtained. He positively refused in these cases to accept remuneration. Had he been a man of independent means I verily believe he would have practiced his profession for the mere love of it, irrespective of any financial returns.

He had slight regard for himself when the good of his patient was involved. To illustrate, allow me to relate a trifling personal incident. Once I asked him to make an early morning call. It was a cold, stormy winter morning; a bronchial trouble annoyed me greatly, and I sought safety in bed. His visit assured me that I had taken the proper precaution and he urged that I remain in bed for two or three days and in the house for a week, since it would be taking a risk to venture out. As the visit progressed I observed that he coughed much and that his cough resembled mine. I further observed that he was not looking in his usual health. Questioning him, I found that my trouble was his also, and that strictly speaking he too should be in bed, since to be out was to take a risk. He as a physician knew better than I what he should do, but it was the call, the professional demand, which outweighed personal considerations. We had a delightful visit together coughing a duet occasionally; whether I helped him I cannot say, but his vivacity and courage bettered my situation, and even to-day the memory of the occasion is fresh and fragrant with his presence.

Another striking characteristic of the man in whose honor we meet was his freedom from professional jealousy. The medical profession sometimes has associated with it a tendency to be envious of what others are accomplishing in the same profession. What may be the primary cause of this unfortunate situation is somewhat obscure. Possibly the fact that each one does his work in seclusion may explain it, but whatever the explanation, the fact is patent in the estimation of laymen. This professional jealousy is often manifested in the unwillingness of the older physicians to help young men in the profession.

In marked contrast with this, Dr. Fischel was especially interested in the advancement of young physicians. He would go out of his way to recommend such as were promising, advising that they be employed; following their cases with them; freely putting at their disposal the results of his ripe experience, and in every way encouraging them in the years of their struggle for a livelihood. Not a few of the eminent younger men in the medical profession will cheerfully bear witness to the truthfulness of this statement. I should not be telling the whole truth were I to indicate that this interest was confined to young men in his own profession. He had unusual depth of good will toward young men as young men. He knew the dangers and difficulties which stood between them and creditable careers in whatever occupation they were to pass their lives. Not alone as a physician, but as a friend, his words of warning and especially of encouragement helped many a young man over the stormy and uncertain period of establishing himself. His purse was always open to the deserving; and his personal solicitation gave not a few young men

positions in establishments and business houses. No young man will ever forget that embrace and the confident cheer with which Dr. Fischel stimulated him in forging ahead.

Those who knew Dr. Fischel only after he reached middle life can associate him with prosperity alone, but in his early life he knew the heartache of unsatisfied ambition and was associated with scant supply for reasonable wants. Whatever success came to him in later life he fairly and honorably won; won by devotion to his cause and by the skill which rewards the patient, persistent follower of his profession. He once remarked to me that occasionally when the number awaiting consultation was wearying he took courage in recalling the days when calls were few and of relatively slight importance. It was perhaps the remembrance of this strenuous experience in securing a professional foothold which made him so helpful to young physicians and gave him such sympathetic understanding of their needs.

Dr. Fischel graduated from the St. Louis Medical College in 1871. He immediately went abroad and spent the three following years in study and research. From 1874 to 1881 he was quiz master in the St. Louis Medical College; 1881-83, lecturer on therapeutics; 1883-88, professor of hygiene and forensic medicine, and from 1886 to the time of his death, professor of clinical medicine. His connection, then, with the school as now organized covers a period of more than forty years, inclusive of the time spent in the St. Louis Medical College, one of the medical schools to be incorporated into the present medical department of Washington University. This long and intimate association with the medical department identified him with its development and is indicative of the interest which he took in medicine from the academic standpoint as well as from the practical side. He devoted himself enthusiastically to the classroom work, and gave careful preparation for the lectures which he was to deliver.

Such, in brief, are some of the things which can truthfully be said of Dr. Fischel. A character so winsome, a physician so eminent, a citizen so public spirited, a man so strong, might reasonably justify a eulogy. I have, however, studiously avoided any attempt at eulogy. I have endeavored to confine myself to a plain statement of facts, for the reason that in his case facts alone speak loudly. It were futile to endeavor to add value to Dr. Fischel's life by glowing words of praise. His life is his highest praise. What he did and what he was will perpetuate his memory in the hearts of all who knew him intimately.

No words can make good the loss of such a man—an irreparable loss to the community, to the medical profession, to countless friends, and most especially to his family. To-day we have met and have spoken to one another of this good man now gone. We have performed this simple act to symbolize our love for him and our allegiance to the high ideals for which he stood.

What his religious views were I do not know. We talked of many things at different times, a wide range of subjects was mutually interesting, but it so happened that our private religious views were never exchanged. Why, I cannot say; it may have been that each considered the subject so private as to be sacred. At any rate, we never spoke of them. So, I repeat, I do not know what religious views he held. But this I do know, that in his private life and outward conduct he illustrated to a rare degree the principles laid down by the humble peasant of Galilee, the philosopher of Nazareth, as entitling one who practiced them to an abundant entrance into a haven of rest beyond.

We who knew him will never forget the late Dr. Washington E. Fischel — physician, citizen, friend, man.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3525 Pine Street, St. Louis, Mo.

APRIL, 1915

EDITORIALS

THE FORTY-EIGHTH GENERAL ASSEMBLY

The legislature adjourned officially at 6 p. m. Saturday, March 20, but in reality about noon, Sunday, March 21. The clocks in both the Senate and House were stopped while the members worked day and night to clean up routine business. Some good laws were passed, some good ones not passed and many freak bills and unimportant measures with a few very obnoxious ones were cataleptized. Of the latter we are interested in the optometry, the chiropractor, the chiropody and the eclectic medical board bills. The first three were vigorously pushed by their sponsors, the optometrists and chiropractors each having a lobbyist constantly at work in Jefferson City. How well they earned their pay is shown by the effect in the House of Representatives. The optometry bill, although reported unfavorably by the House Committee on Judiciary, failed to be engrossed by the narrow margin of four votes.

The chiropractor bill fared better, it being reported by the Judiciary Committee without recommendation and the motion to engross it carried by a vote of 55 to 45. It was later passed in the House by a vote of 74 to 56.

The chiropody bill was approved by the House Judiciary Committee without a public hearing but failed to make any progress.

The eclectic medical board bill slumbered in committee throughout the session.

The other bills did not even reach the Senate except the chiropractor bill, which was promptly referred to Dr. Wallace's committee where it was neatly "laid out" and buried by the side of the asphyxiated optometry bill. In our next issue we will endeavor to give a more comprehensive résumé of the work of the legislature. We wish at this time to invite the attention of the members to the acts of their representatives and senators. For many years the antagonism to reasonable health laws by representatives elected by the votes of the medical profession has been silently accepted as a necessary evil because we have been forced to contend not only with the density of the ordinary representative

but also with the ignorance and prejudice of the people on all topics looking toward the protection of their health. Latterly, the people have awakened and are beginning to appreciate the value of good health and show a desire to help the profession prevent disease. It is therefore no longer necessary to remain silent when representatives misrepresent us. Those who voted for the optometry and chiropractor bills should be informed that their opposition is regarded as an evidence of their indifference to the welfare of the people and proves them unworthy of our support in their political aspirations.

Particular attention should be given to those representatives serving their second terms without changing their attitude toward public health measures. Of such are Mr. William Hicks, of Jackson county, the father of the optometry bill in the House, where he worked assiduously for its passage; he introduced the eclectic medical board bill in the last session and voted for the chiropractor's bill this session; Mr. John H. Taylor, another Jackson county Representative, who supported the optometry bill last session and again this session, and of course followed the lead of Mr. Hicks by voting for the chiropractor's bill this session; Mr. Philip McCollum, of Buchanan county, who persistently favored optometry in 1913 and 1915 and voted for the chiropractor bill this session. Mr. Frank H. Lee, serving his first term to help make laws for the welfare of the citizens of Jasper county distinguished himself by introducing the chiropractor's bill and pushing it through the House.

IMPORTANT TO PAY DUES NOW

On April 1 those members who have not paid their dues will become delinquent and will lose their right to defense in suits for malpractice originating during the period of delinquency which will date from January 1. This privilege of membership is well recognized as one of the strongest influences in favor of the physician who is sued. Members should not neglect their obligation to the County Society and State Association because the organization cannot come to their assistance until they have fulfilled their duty as required by the by-laws. The obligations laid upon the member are exceedingly moderate in the amount of dues and the time limit allowed for their payment is very liberal. Don't delay. Pay your County Society Secretary at once.

Pocket cards are now issued to members when they pay. If your pocket card should not be received soon after you remit to your Secretary make inquiry of him or write the State Secretary.

THE PROGRAM FOR THE ANNUAL SESSION

On another page we publish the papers arranged by the program committee for the scientific session of the Association at the St. Joseph meeting. The program committee was highly gratified with the generous response from the members to the request for papers and more offers were made than the committee could accept.

The committee decided to arrange the business of the Association in such manner as to avoid as far as possible all conflicting sessions. The scientific work of the Association therefore will not begin until the morning of the second day, Tuesday, May 11. On this day the reading and discussion of papers will commence and continue without interruption, it is hoped, throughout Tuesday and Wednesday. No night sessions for scientific work are contemplated. The House of Delegates will meet on Monday, May 10 and will remain in session until all its business is completed which the by-laws state must be done on the first day of the annual session. This will enable delegates who are on the scientific program to read their papers and hear the other papers, a privilege that has often been denied them in past years because of their duties as delegates.

The President's address will be arranged for delivery at the opening meeting of the scientific session. The orations on medicine and surgery have been discontinued.

The Health Sunday in the churches on May 9, at which time our members will fill the pulpits of a number of the churches in St. Joseph, will take the place of any public meeting of the Association.

The House of Delegates will probably hold a session on Monday night; on Tuesday night the members of Buchanan County Medical Society will offer some entertainment for the members.

KANSAS CITY DEPARTMENT OF HEALTH

Press dispatches announce the resignation of Dr. W. S. Wheeler, Health Commissioner of Kansas City, to take effect April 1. Dr. Wheeler retires after a long incumbency, having served under the administrations of both Democratic and Republican mayors. His successor has not been announced at this writing although the names of several candidates have been mentioned, including the present assistant commissioner.

For years it has been recognized in all large municipalities of America that the small appropriations to the department of health and the influence of politics upon appointees have been

the principal causes of the inefficient and unsatisfactory administration of this very important office. To these we may add as contributing causes the lethargy and indifference of the people in demanding improved sanitation and pure food, and the tardiness and cowardice on the part of the organized medical profession in openly recommending to this position the highly qualified members of the local medical profession or a specially trained graduate in public health.

Even if it could be said that not every municipal office needs efficient men only, surely in that of Director of Public Health where health and life are at stake, efficiency and only efficiency is needed—nay demanded.

The recent agitation over the milk supply in Kansas City, entered into so energetically by The Consumers League indicates the temper of the people, but the questions involved comprehend much more than the milk supply. The food problem in general, its protection and display, the sanitary condition of the streets, the water supply, garbage disposal, the control of contagions and the proper inspection of schools and industrial establishments, should all receive immediate and thorough attention of the department of health. These conditions and needs can be met alone by a man of thorough training and experience.

Naming such an officer at this time would be significant of the present board's purpose and restore confidence to the waiting public whose present attitude is favorable to immediate and considerate action.

It is to be hoped that the board of health of Kansas City in their deliberation over this office may consider as never before the fitness of the man for the place; and that in making the appointment politics will be absolutely disregarded.

THE HARRISON ANTINARCOTIC LAW ITS EFFECT ON HABITUÉS

When it became known to the drug addicts that the Harrison law was to go into effect on the first of March there was much variety in reaction. Some began, if they can be believed, to cut down the amount usually taken so as to be better prepared to meet the inevitable ordeal of deprivation. Others invested all they could command in drugs and kept themselves soaked to the limit with the same idea. If they had to meet the ordeal they would at least indulge themselves while they could.

Almost immediately after the law became effective the city hospitals in all large cities of the state were besieged with applicants for admission. There seemed to be an impression

among the addicts that the treatment would consist largely in a "twilight" sleep. It happened often that release from the hospital was demanded at once when this impression was corrected.

After consultation between the members of various units in the service of the St. Louis City Hospital it was decided to try the Lambert-Town treatment on selected subjects. The treatment is drastic and many of those driven in were found to be physically unfit to undergo the severe purging required.

A good opportunity was had to compare the usual treatment of ordinary bowel cleansing, baths and hyoscyamus with at times sudden and at other times gradual withdrawal of opium. It seemed to be the impression in the neurological staff that where the subjects are carefully selected the Lambert-Town treatment gives good results and rather more promptly than the routine procedure. But it must be remembered that only the strong subjects are selected.

It is well to bear in mind always that drug habitues have a psychopathic background and that when we have succeeded in withdrawal of the accustomed drug the individual is only what he was before he began, with some additional blemishes.

The Harrison law will have a very salutary effect in limiting the enormous evils of the opium and cocaine traffic. The purpose of the law is to break forever the narcotic habit among the people. The legitimate practice of medicine is in no wise hampered by the law and when reputable physicians have learned the methods of compliance no inconvenience will result. Physicians of the other sort will find the government in no mood to condone offenses.

DEDICATION OF THE NEW BUILDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SCHOOL

The dedication of the new buildings of the Washington University Medical School will take place Thursday and Friday, April 29 and 30, with ceremonies conducted at the Medical School and at Graham Memorial Chapel. Announcement of the event has been made to American and foreign universities inviting delegates to be present. On Wednesday, April 28, ceremonies in commemoration of William Beaumont, physiologist, will be held at the Medical School when the gift from Doctor Beaumont's granddaughter, Miss L. Beaumont Irwin, of manuscript and other works of Beaumont, will be announced. The preliminary programs as arranged will be found on another page¹ in this issue.

1. See page 186.

COMMITTEES AT ST. JOSEPH FOR THE STATE ASSOCIATION MEETING, MAY 10, 11, 12

GENERAL COMMITTEE ON ARRANGEMENTS: Daniel Morton, Chairman; C. R. Woodson, H. R. Forgrave, Floyd Spencer, O. G. Gleaves, W. T. Elam, John M. Doyle, C. A. Good, Herbert Lee, A. B. McGlothlan.

SUB-COMMITTEE ON HOTELS: C. R. Woodson, Chairman; W. T. Elam, O. G. Gleaves.

SUB-COMMITTEE ON MEETING PLACES: Floyd Spencer, Chairman; John M. Doyle, C. A. Good.

SUB-COMMITTEE ON SOCIAL ENTERTAINMENT: C. A. Good, Chairman; John M. Doyle, J. J. Bansback, J. W. Ferguson, W. L. Kenney.

HOTELS AND RATES AT ST. JOSEPH

HOTEL ROBIDOUX, Headquarters, European: Room without bath, one person \$1.50 and up; room without bath, two people \$2.50 and up; room with bath one person \$2.50 and up; two in room \$4.00 and up.

ST. FRANCIS HOTEL, European: Room without bath, one person \$1.00; two in room \$1.50; Room without bath, two beds \$1.00 each person; Room with bath, one person \$2.00; room with bath, two beds, two persons \$1.50 each, four persons \$1.00 each; extra good rooms with bath, \$2.50.

HOTEL METROPOLE, European: Room with bath, \$1.00 each person; Room with running water, 75c each person; Room without running water, 50c each person. Not required to double unless satisfactory with parties occupying room.

In addition to this list the Hotel Committee has a list of other hotels which will offer rooms at very moderate prices. A bureau of information in the Commerce Club is prepared to furnish a list of residences where rooms may be had at moderate prices for those who prefer to stop at a private residence. Inquiries should be addressed to Dr. C. R. Woodson, St. Joseph, Chairman Hotel Committee.

VOTE ON OPTOMETRY BILL

For the information of our members we publish the vote of each representative on the motion of Mr. Hicks of Jackson county to engross the optometry bill in spite of the adverse report of the committee on Judiciary. It is worthy of note that the Speaker Mr. James P. Boyd of Monroe county voted No. We note some of our old friends who voted for the bill in the last session of the assembly are still ob-

sessed with the notion that a spectacle fitter needs a law to make him a good craftsman. Such representatives fail utterly to discern the dangerous nature of the privilege this bill would confer upon such persons to treat diseases of the eye and of the body by the fitting of glasses. The vote follows:

County.	Name	Vote
Adair	C. M. Wilcox	Yes
Andrew	J. P. Cooper	Yes
Atchison	Clark A. McColl	Absent
Audrain	E. A. Shannon	No
Barry	J. F. Cbastain	Absent
Barton	E. M. Connor	Yes
Bates	James N. Sharp	No
Benton	Robt. W. Hedrick	Yes
Bollinger	C. J. Sharrock	Yes
Boone	Wm. H. Sapp	No
Bucbanan—		
1st District	Philip McCollum	Yes
2d District	Frank J. Staedtler	Yes
3d District	Jacob L. Bretz	Yes
4th District	Jack D. Robinson	Yes
Butler	Almon Ing	Absent
Caldwell	J. A. Waterman	No
Callaway	H. S. Houf	No
Camden	John A. Floyd	Absent
Cape Girardeau	Harry W. Bridges	Yes
Carroll	Charles S. Wright	No
Carter	W. F. Frazier	No
Cass	Charles S. Nelson	No
Cedar	James N. Jeffries	Absent
Chariton	R. T. Morehead	No
Christian	W. T. Holbert	No
Clark	Frank M. Harr	Yes
Clay	B. T. Gordon	Yes
Clinton	T. L. Wiley	No
Cole	A. T. Dumm	Yes
Cooper	L. M. Cordry	Yes
Crawford	L. H. Lewis	No
Dade	Joseph W. Hankins	Yes
Dallas	John H. McCarron	No
Daviess	Floyd S. Tuggle	No
DeKalb	Edw. F. Cornelius	No
Dent	John H. Welch	Absent
Douglas	I. T. Curry	Yes
Dunklin	James A. Bradley	No
Franklin	Fred H. Kasman	Yes
Gasconade	W. L. Langenberg	No
Gentry	J. W. McKnight	No
Greene—		
1st District	Wash. Adams	Absent
2d District	F. T. Stockard	No
Grundy	M. Eugene Humphreys	Absent
Harrison	W. E. Land	Yes
Henry	Ross E. Feaster	No
Hickory	Moses N. Neihardt	Yes
Holt	Wm. R. Swope	Absent
Howard	R. S. Walton	Yes
Howell	Joseph A. Myers	No
Iron	C. P. Damron	No
Jackson—		
1st District	Thomas H. Knight	Yes
2d District	Frank C. Wilkinson	Yes
3d District	William Hicks	Yes
4th District	Eugene F. Sullivan	Yes
5th District	John H. Taylor	Yes
6th District	D. M. Keenan	Yes
Jasper—		
1st District	H. L. Shannon	Yes
2d District	Thomas J. Roney	No
3d District	Frank H. Lee	Absent
Jefferson	George C. Bond	Absent
Johnson	William A. Stephens	No
Knox	Alfred Pettit	Yes
Laclede	Marion D. Allen	Yes
Lafayette	N. M. Houx	Yes
Lawrence	P. H. Barris	No
Lewis	Noah W. Simpson	No
Lincoln	Isiah Whiteside	Yes
Linn	Charles Edw. Kelley	No
Livingston	A. T. Weatherby	Yes
McDonald	W. O. Dixon	No
Macon	Joshua C. Bradley	No
Madison	William A. Engel	No
Maries	Frank M. Carrington	Yes
Marion	Madison C. Schofield	No
Mercer	I. H. Somerville	No
Miller	John W. Conner	Absent
Mississippi	A. R. Boone	Yes
Moniteau	Arcus L. Douglas	No

County	Name	Vote
Monroe	James P. Boyd	No
Montgomery	H. W. Kamp	Absent
Morgan	Jacob W. Kauffman	Yes
New Madrid	O. A. Cook	Yes
Newton	George A. Pogue	No
Nodaway	Charles Hyslop	No
Oregon	Mather C. Culp	No
Osage	Jas. Robinson	Absent
Ozark	James J. Kyle	Yes
Pemiscot	Von Mayes	No
Perry	Anthony R. Lukefahr	No
Pettis	C. W. McAninch	Yes
Phelps	Frank H. Farris	No
Pike	R. L. Dawson	No
Platte	David A. Chesnut	Yes
Polk	Chas. U. Becker	Absent
Pulaski	Albert L. Crumley	No
Putnam	T. B. Valentine	No
Ralls	Drake Watson	Yes
Randolph	Rich R. Correll	No
Ray	Thomas B. Cook	No
Reynolds	James M. Mooney	No
Ripley	J. F. Fulbright	No
St. Charles	R. C. Haenssler	Absent
St. Clair	Louis E. Browning	Yes
St. Francois	Arthur P. Gray	Yes
Ste. Genevieve	William R. Wilder	Yes
St. Louis—		
1st District	James W. Settle	Yes
2d District	Harry E. Sprague	Yes
Saline	Joshua Barbee	No
Schuyler	Winfred Melvin	No
Scotland	Martin Miller	No
Scott	Jos. Dolphin Bowman	No
Shannon	F. M. Jones	Yes
Shelby	Wilson L. Shouse	Yes
Stoddard	F. M. Norman	Yes
Stone	E. P. Gracey	Yes
Sullivan	Joe Nickell	No
Taney	Guy B. Mitchell	No
Texas	J. R. Womack	No
Vernon	I. A. Jackson	No
Warren	Thomas B. Hodges	No
Washington	William H. Evens	Yes
Wayne	I. M. Bowers	Yes
Webster	John V. Atteberry	No
Worth	W. W. Aldrich	No
Wright	Sherman Griffith	No
St. Louis City—		
1st District	Philip W. Chaney	Yes
1st District	Henry C. Erman	Absent
1st District	Claude O. Percy	Yes
2d District	William F. Depelheuer	Yes
2d District	Anthony J. Laux	Absent
2d District	Louis E. Trieseler	Yes
3d District	John J. Moroney	No
3d District	Charles Rizzo	Absent
3d District	Felix E. McAdams	No
4th District	Frank O. Bittner	Yes
4th District	Henry Kraemer	Yes
4th District	John C. Robertson	Yes
5th District	B. Frank	Yes
5th District	Albert Rahenneck	Yes
6th District	Clarence H. King	Yes
6th District	Jones H. Parker	No

Total Yes 59
Total No 63
Absent 20

OBITUARY

FRANCIS AUGUST SCHULTE, M.D.

Dr. Francis August Schulte, a graduate of St. Louis University Medical School, 1904, died at his home in St. Louis, Feb. 1, 1915, aged 51.

LONDON A. BEALE, M.D.

Dr. Landon A. Beale, a graduate of Missouri Medical College, 1886, was found dead in his chair at his office in St. Louis, Feb. 6, 1915, aged 48.

IRA T. BRONSON, M.D.

Dr. Ira T. Bronson, a graduate of Dartmouth Medical School, Hanover, N. H., 1870, died from uremia at his home in Sedalia, Feb. 15, 1915, aged 75.

WILLIAM W. MOSBY, M.D.

Dr. William W. Mosby, a graduate of the medical department of Transylvania University, 1845, died at his home in Richmond, Mo., Feb. 26, 1915, aged 91.

HORACE M. JULIAN, M.D.

Dr. Horace M. Julian, a graduate of University of Maryland School of Medicine, Baltimore, Md., died at his home in St. Louis, Jan. 30, 1915, aged 53, from paralysis.

GEORGE HOYL SAMPLE, M.D.

Dr. George H. Sample, a graduate of the St. Louis College of Physicians and Surgeons, 1888, died at his home at Pocahontas, of Bright's disease, Feb. 1, 1915.

GEORGE JOHN PARRISH, M.D.

Dr. George J. Parrish, a graduate of Missouri Medical College, 1872, died at his home in St. Louis, Feb. 27, 1915, aged 73. He had practiced in St. Louis about forty years.

LYMAN S. REBER, M.D.

Dr. Lyman S. Reber, a graduate of the Medical Department, University of Pennsylvania, 1870, died at his home in St. Louis, Feb. 28, 1915, from carbolic acid poisoning supposed to have been taken by mistake. He had practiced in St. Louis about forty-five years. He was 68 years old.

GREGORY GEORGE BRYAN, M.D.

Dr. Gregory G. Bryan, an honor graduate of Washington University, St. Louis, 1896, died at his home in De Soto, Missouri, of interstitial nephritis, Jan. 31, 1915, aged 45. He was also a graduated chemist and was a member of the Missouri State Medical Association and a Fellow of the American Medical Association. For the last five years he had been city physician of De Soto, and no man was more loved and respected than he in his community. The deepest regret is felt that a physician of his ability should have been called from his labors just at the meridian of his usefulness.

CHARLES W. PATTON, M.D.

Dr. Charles W. Patton, a graduate of Kansas City Medical College, 1888, and a member of the Livingston County Medical Society, died at his home in Mooresville, Mo., Jan. 26, 1915, aged 62.

Dr. Patton was a native of Indiana. He moved to Chariton county in 1861 and to Livingston county in 1865 and lived at Mooresville till the time of his death.

NEWS NOTES

SPRINGFIELD is reorganizing its Health Department.

DR. F. M. RYAN, of Maryville, has been appointed county physician and health officer of Nodaway county.

DR. EDGAR A. LEWIS, of Rockport, was married to Miss Ethel Briese, of Delphos, Ohio, at the First Presbyterian Church in Omaha on February 23.

SMALLPOX assumed epidemic form at several points in the state, especially in the central west and southwestern sections during the past several weeks. It is beginning to abate.

DR. JOSEPH E. MILLER, of Wayland, has disposed of his practice and will take post-graduate work in eye, ear, nose and throat diseases. At present he is visiting his father at Sullivan, Ill.

DR. IRA A. MILLER, of St. Louis, one of the numerous advertising doctors who were exposed by the St. Louis Star, was fined \$200 and costs in the federal court. Eight others are awaiting trial on new indictments.

DR. TINSLEY BROWN, an ex-president of the Missouri State Medical Association, has been appointed postmaster at Hamilton. While Dr. Brown will not retire from practice he will limit his activities in professional work.

DR. GEORGE C. MOSHER, of Kansas City, underwent a surgical operation at the German Hospital, Kansas City, February 27. He passed through the ordeal successfully and is reported making good progress toward recovery.

H. K. MULFORD COMPANY have issued a pamphlet containing the Harrison Anti-Narcotic Law with annotations and a list of the products of the firm that are affected by the act. Copies of the pamphlet will be sent to members on request.

DURING February the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies: H. K. Mulford Co.: Cholera Serobacterin, Meningo-Serobacterin, Typho-Serobacterin, Mixed.

A NEW record for the maximum number of cases in the City Hospital at St. Louis was established on February 26, with 905 patients. There were 517 male and 388 women and children patients. Since March 1 there have been 186 drug habitués treated at the hospital, 94 men and 92 women.

A DAUGHTER was born February 17, to Dr. and Mrs. John R. Hall, formerly of Napton, Missouri, and now of Fort Logan, Colorado. Dr. Hall was formerly secretary of the Saline County Medical Society and recently accepted a position in the Medical Reserve Corps of the army, being ordered to Fort Logan.

THE *Post Graduate*, a monthly, published for the New York Postgraduate Medical School and Hospital, now in its thirtieth volume, will be discontinued. In its place the school will issue an announcement from time to time which will contain detailed information of the opportunities for postgraduate work at the institution.

DR. THOMAS S. MANNING, of St. Louis, was arrested by the federal authorities March 22 on the charge of violating the Harrison Antinarcotic Law. The police found four men and two women in his office who were said to be addicts. Dr. Manning claimed to be treating them for the habit by a process of his own invention.

ON March 7 a memorial service to the late Dr. M. Hayward Post was held in the Missouri School for the Blind at St. Louis. The Superintendent, Mr. Green, Mr. Martin Collins, Dr. W. E. Shahan, and Rev. Horace Holton, made addresses. The pupils of the school furnished the music for the occasion and two of them spoke in testimony of the gratitude and affection the pupils held for their deceased friend.

The Alumni Association of Washington University Medical School is erecting a memorial to the late Dr. Justin Steer. Those of his students who care to do so are asked to contribute one dollar to the fund. Mail the donation to any one of the committee: Dr. L. H. Hempelman, Metropolitan Building; Dr. W. T. Coughlin, Metropolitan Building; Dr. A. C. Henske, Sarah and Easton Avenues, St. Louis.

THE new buildings of the Washington University Medical School will be dedicated on April 29 and 30. The corporation and the medical faculty have invited delegates from the medical organization. Dr. Frank J. Lutz, of St. Louis, has been appointed delegate to represent the Missouri State Medical Association at the ceremonies and Dr. R. Emmet Kane has been appointed delegate to represent the St. Louis Medical Society.

THE Defense Committee reports another malpractice suit against two of our members has been concluded and the decision rendered in favor of the doctors. This was a suit in which two physicians were made codefendants, the plaintiff alleging \$10,000 damages for a multiple fracture of the arm that the doctors tried to save but were compelled to amputate later. It took the jury four minutes to decide that the physicians had done their full duty, although the plaintiff held the case in court for two years.

ARRANGEMENTS have been completed for a special train from Pittsburgh to San Francisco for the session of the A. M. A., June 21 to 26. This train is routed via St. Louis and Kansas City over the Missouri Pacific railroad. It is scheduled to leave St. Louis June 15 and arrive at San Francisco June 18. The route will be through the scenic territory on the Denver and Rio Grande and Western Pacific Railroads. The party is under the direction of Dr. Gilliford B. Sweeny, of Pittsburgh. Members desiring to join the party at St. Louis or Kansas City should write the ticket agent of the Missouri Pacific Railroad for particulars.

A CORRESPONDENCE course for health officers is announced by the University of Wisconsin Extension division. This course has been prepared to meet the need and desire frequently expressed for better preparation for local health administration. It is designed for health officers not able to pursue or warranted in taking residence work, as well as for others desiring to take up the study of health administration. The topics treated in this course will cover laws and regulations, vital statistics and health surveys, transmission of disease, nuisances, and administration of a health department. The administration part of the course will treat of inspection work, visiting nursing, medical inspection of schoolchildren, quarantining, isolation and disinfection, use of laboratory, registration and other subjects.

THE program of the National Conference of Charities and Correction at Baltimore, Maryland, May 12 to 19, contains the names of over

fifty leading charity workers and penologists, and it is anticipated the unprecedented social situation of the present year will result in a conference of unique values. The program on "The Family and the Community" will result in considerable discussion of methods of treating individual cases of poverty, as, for example, in a study of "The Psychology of Cooperation." Prof. Henry R. Seager of Columbia University will give an address on the "Causes and Remedies of Unemployment." The program of "Health" will be under the chairmanship of Dr. Richard C. Cabot, of Boston. It will include a series of discussions on the social responsibility of the hospital and practical methods of social work in connection with hospitals, the chief speaker being Dr. William H. Welch of Johns Hopkins Hospital, Baltimore. Other subjects will be: "A Pay Clinic for Persons of Moderate Means," "The Distinction Between 'Intensive Cases' and 'Short Service Cases' in Hospital Social Work," and "Social Education of the Physician," the latter subject being treated by Dr. Charles P. Emerson, Dean of the Indiana University Medical School.

MEMBERSHIP CHANGES, MARCH

NEW MEMBERS

Amin Boutros, St. Louis.
 Charles H. Burdick, St. Louis.
 C. C. Coats, Pattonsburg.
 John A. Corn, Amoret.
 George F. Chopin, St. Louis.
 David E. Hamontree, Halfway.
 Joseph F. Flynt, Molino.
 Arnold W. Garlitz, St. Louis.
 Eugene P. Hamilton, Kansas City.
 Samuel L. Inman, Valley Park.
 Wm. Allen Knight, St. Louis.
 Anderson B. Killingsworth, Dunnegan.
 Lester A. Millikin, St. Louis.
 Ellsworth E. Moody, St. Louis.
 John C. Ottman, Craig.
 Cecil L. McClanahan, Spickard.
 Edwin DeW. Peugh, Brookfield.
 Abram T. Quinn, St. Louis.
 Jesse Reel, Foley.
 Louis W. Schermann, St. Louis.
 Benj. T. Sharp, Kansas City.
 Samuel T. Smith, Poplar Bluff.
 Emery Thompson, Holden.
 Lancaster G. Washington, St. Louis.
 Frank L. Whelpley, Kirkwood.
 Waldo H. Will, Jefferson Barracks.
 V. Visscher Wood, St. Louis.
 Elihu B. Wright, Peirce City.

CHANGE OF ADDRESSES

Bert W. Babcock, New Point to Fortescue.
 J. D. Ferguson, Sparta to Good Hope.
 Otto E. Foster, Columbia Bldg. to 700 Bank of Commerce Bldg., St. Louis.
 John F. Grace, Mosby to Excelsior Springs.
 John R. Hall, Napton, Mo., to Fort Logan, Colo.
 W. E. Handley, Senath to 1533 Washington Ave., Springfield.
 James W. Helton, Mendota, Mo., to Cincinnati, Iowa.
 Wm. Henry Foster, 2246 Bernays Ave. to 3604 National Bridge Road, St. Louis.
 John D. Hess, Holcomb to Clarkton.
 Leo D. Harmon, Forbes, Mo., to Table Rock, Nebr.
 Anderson B. Killingsworth, Dunnegan, Mo., to Iuka, Kans.
 John S. Kimbrough, Humboldt Bldg. to 219 Wall Bldg., St. Louis.
 Harry S. P. Lare, St. Louis to Aberdeen Hotel, Kansas City.
 D. A. Laurenzana, 523 E. 5th St., to 428 White Ave., Kansas City.
 James T. Morgan, Springfield to Canton.
 Joseph E. Miller, Wayland, Mo., to Sullivan, Ill.
 R. W. Murray, Ludlow, Mo., to Jansen, Nebr.
 Philip L. Patrick, New Cambria, Mo., to Ottawa, Kans.
 H. B. Pryor, Fulton to Ashland.
 J. T. Redwine, Wycliffe, Ky., to Doniphan, Mo.
 Thos. H. Shy, Centerville to Granville.
 Wm. Austin Sibley, Marston to Owensville.
 Paul Vinyard, Wall Bldg., to 800 3rd Nat. Bank Bldg., St. Louis.
 J. Wm. Williamson, St. Louis, to Sunflower Hospital, Parchman, Miss.
 Douglas Wyatt, New Florence to Cookville.

REINSTATED

Roy D. Moore, Clayton.

RESIGNED OR DROPPED

John E. Chapin, Pacific Grove, Cal.
 J. A. Hockaday, Plattsburg.
 George A. Moulder, Linn Creek.
 Wm. C. O'Neal, Lagrange.
 C. S. Wilson, Gentry, Ark.

DECEASED

Gregory G. Bryan, De Soto.
 Daniel W. McGee, Mountain Grove.
 James B. Sharpe, Senath.
 Z. T. Standley, Laclede.

MISCELLANY

ILLINOIS NOT GUILTY

Not long ago, a patient at the Missouri State Hospital for the Insane at St. Joseph, while handcuffed and helpless, was thrown violently to the floor by having his feet pulled from under him by an attendant. The attendant then jumped upon the frail body and kicked and stamped until the chest was crushed in and death resulted. Another attendant stood by without interfering.

In Missouri the state hospital inmates are at the mercy of political ward heelers, repeaters and others who do the dirty work of political bosses and who therefore must be rewarded with jobs. There is no civil service. Any thug is qualified to be an attendant at a state insane asylum, if he has the backing of some politician.

Illinois used to have this same cruel system. Now, however, the attendants at the hospitals are selected because of their fitness.

Between the two systems of caring for the insane there is as much difference as between the middle ages and the twentieth century.—Springfield (Ill.) *News*.

PROOF AND PROPHECY

The conviction of Dr. Ira A. Miller, through pleading guilty of use of the mails to defraud, is a culmination of the vigorous campaign *The Star* made against advertising doctors and quacks, which broke up the nefarious business and saved the poor and afflicted of St. Louis many thousands of dollars, to say nothing of their chance of being cured by reputable and competent physicians.

Such a campaign for the people and for decent conditions is not made without cost. It will be remembered that this same Dr. Miller initiated a libel suit against *The Star*, the real merit of which may now be judged by his plea of guilty. There were other annoyances, including threats of suits and of withdrawal of advertising patronage and subscriptions, such as an independent paper always encounters, to say nothing about personal violence. There was also concurrent printing of these fake medical advertisements by some of the other papers in the city, just as there has been advertisements of fake clairvoyants and fortune tellers during and after the campaign by which *The Star* drove them outside the city limits.

But all this is water that has passed the mill. *The Star's* mill is grinding with other water now and turning out a new grist, something of vastly more benefit to the people of St. Louis economically—the getting of cheaper electricity—but it may be pardoned for briefly calling attention to this final proof of the fullness of its achievement in the war it made against medical fakes and fortune telling fakes.

Perhaps it is prophetic of like success in its campaign for infusing into the veins of St. Louis the life-giving blood of cheap electric light and power.—St. Louis *Star*.

GAVE BOGUS DOCTOR "LIMIT"

"Dr." James Clement was given the maximum punishment for practicing medicine without a license by a jury in Judge Latshaw's division of the criminal court yesterday afternoon. It consisted of one year in the county jail and a fine of \$500.

Fred Coon and Judge Harry Kyle, attorneys for Clement, notified the court they would file a motion for a new trial immediately and asked that he be re-

leased last night on bond. Judge Latshaw refused and remanded Clement to jail until the motion had been filed and heard.

ONE OF THE PATIENTS TREATED DIED

The evidence in the case showed that Clement was operating the "Doctor Clement Cancer Company," in the Indiana Building, at Twelfth Street and Grand Avenue; that he treated Mrs. Margaret Walker, 546 Roy Avenue, and that later the woman died. Two physicians who were employed by the company said Clement treated patients and one said Clement signed his name to prescriptions.

All this Clement denied. He said he was only employed as a manager of the company by one of his divorced wives, Mrs. A. B. Clement, and that she owned the company. He said he never treated any patients, but left that for the registered physicians to do. Clement admitted he had served four months in the county jail for the same offense once before and that he had been convicted in police court of gambling.

During the entire trial yesterday two of Clement's wives—one, his present wife, and the other, divorced—sat near him. Both took the stand and testified in his favor.

HIS EX-WIFE HEAD OF CANCER COMPANY

His divorced wife—Judge Latshaw refused to allow her to tell whether she was the third or fourth one—told the jury the "Dr. Clement Cancer Company" belonged to her, and that Clement was employed there as her manager, and not as a physician. She identified her signature on two contracts with other physicians employed at the company's offices, and said they were liable to her for their work and that she paid them. She always signed her name "A. B. Clement," she said, but seldom visited the offices.

After the jury read its verdict and Clement had been led away to the county jail, his last two wives left the courtroom arm in arm, the divorced wife to return to her two children and the other to return to her home at the La Grande Hotel, Thirteenth and Wyandotte Streets.—Kansas City *Times*.

WHO IS TO BLAME?

The cynically inclined may be able to derive a little agreeably bitter pabulum out of the recent conviction of a member of the advertising faculty on a charge of fraud, or something of the sort. The gentleman had a genial talent for resurrecting the dollars buried in an old stocking under the mattress at home and putting them again into circulation. The facts have been fully set forth to the accompaniment of a great blare of trumpets in the daily press that formerly carried his copy (ten cents per agate line or thereabouts). It is however significant that he had been permitted to ply his nefarious trade for a number of years unmolested, and that he was a regularly licensed physician of the State of Missouri. His elaborately furnished suite, mirrors, mahogany, carpets that your feet sink into, and whatever else may wield a hypnotic spell—all expanded to meet the demands of his rapidly growing practice—are now dismantled and silent (*sic transit*). But is it to inquire too nicely to ask whether or not the culprit alone is to be held responsible for this catastrophe?

What are we to say of the statesman who tended bar for a number of years until his compatriots called him from the spigot like Cincinnatus of old? Once in Jefferson City he showed a fitting sense of dignity pertaining to his office. He hearkened to the cry of his

constituents. He desired to hold his job. Besides he had to lift the mortgage on that new thirty-thousand candle sparkler of his which he wore at a coquettish angle on his manly chest and which had caused all the locomotives in Missouri to shed bitter tears. It was "Headlight Billy" and his ilks in every state of the Union who were responsible in the past for bad medical laws and who are responsible today for the licensing in numerous states of optometrists, exorcists, conjurers, prestidigitators and similar edifying cults. The "*quid pro quo*" system of jurisprudence has been devised to meet the necessities of an enterprising people. And it is the "*quid pro quo*" system which has enabled the few exceptionally enterprising ones to exploit their fellows in so shameless a fashion.

But to inquire a little more nicely, are not we, the people, responsible for the quality of our legislation? And if bad laws find a victim, can we wash our hands of the blame? As for the present culprit, he was certainly weak; almost as certainly he was wicked. Doubtless he turned harp in order to make a living, the old excuse for almost every villainy that man ever committed. But let us not join in any vulgar cries of exultation at his downfall. Laws could be passed and should be passed which would restrict the practice of medicine absolutely to those qualified to undertake it, and as long as such laws are obstructed by the system of reciprocity at present in vogue, we have only to turn away in shame from the scandals that inevitably arise. But while extending charity to this lonely outcast, let us none the less not suppress our cries of rage at legislators who derive all their convictions from their stomachs, as well as at the whole system of dollar intrigue, tit for tat legislation and all the rest of the solonic lore whereby the health and lives of the people are bartered away for a place. The medical profession should make itself heard.—*Bull. St. Louis Med. Society.*

PRELIMINARY PROGRAM OF THE DEDICATION OF THE NEW BUILDINGS OF WASHINGTON UNIVERSITY MEDICAL SCHOOL

Wednesday, April 28, 1915

EXERCISES IN COMMEMORATION OF WILLIAM BEAUMONT

- 4:00 p. m. Presentation of the Manuscripts and Letters of William Beaumont to the Washington University Medical School.
Acceptance of the Gift by the Chancellor of the University.
William Beaumont as a Practitioner, by Dr. Frank J. Lutz.
William Beaumont as an Investigator, by Dr. Joseph Erlanger.
Inspection of the Manuscripts and Letters of William Beaumont.

Thursday, April 29, 1915

DEDICATION OF THE BUILDINGS OF THE MEDICAL SCHOOL

- 10:30 a. m. Prayer by the Right Reverend Daniel Sylvester Tuttle, Bishop of the Diocese of Missouri.
Announcement by the President of the Corporation, Robert Somers Brookings.
Announcement of the Completion of the Buildings by the Architect, Theodore Carl Link.

Response by the Chancellor of Washington University, accepting the buildings.
Presentation of delegates.
Address for the Faculty by the Dean of the Medical School, Dr. Eugene Lindsay Opie.
Address by Dr. William Henry Welch, Professor of Pathology, Johns Hopkins University.

- 1:00 p. m. Luncheon to delegates.
2:00 p. m. Address by Abbott Lawrence Lowell, President of Harvard University.
Address by Henry Smith Pritchett, President of the Carnegie Foundation for the Advancement of Teaching.
Address by George Edgar Vincent, President of the University of Minnesota.
4:00 p. m. Garden Party on the Grounds of the Medical School and Hospital.
7:30 p. m. Dinner to delegates.

Friday, April 30, 1915

ALUMNI DAY

- 10:00 a. m. Address of Welcome to the Alumni:
In behalf of the Alumni of the St. Louis Medical College by Dr. William Townsend Porter, Professor of Comparative Physiology, Harvard University.
In behalf of the Alumni of the Missouri Medical College by Dr. Robert James Terry, Professor of Anatomy, Washington University.
In behalf of the Washington University Medical School by Dr. Fred Towsley Murphy, Professor of Surgery, Washington University.
Visit to the laboratories and library.
1:00 p. m. Luncheon to delegates and alumni.
2:00 p. m. Address by Dr. George Dock, Professor of Medicine, Washington University.
Address by Abraham Flexner, Assistant Secretary of the General Education Board.
Address by Dr. William Crawford Gorgas, Surgeon General United States Army.
Visit to the Barnes Hospital and to the St. Louis Children's Hospital.
8:30 p. m. Academic procession.
Academic Exercises in Graham Memorial Chapel.
9:30 p. m. Reception in St. Louis School of Fine Arts Building.

HOUSE BILL NO. 586

Forty-Eighth General Assembly

Introduced by Mr. Lee of Joplin Jan. 21. 1915.

AN ACT

To authorize and regulate the practice of chiropractic, to provide for the licensing and examination of chiropractors, to create a state board of examination and registration, to provide for the appointment of same, to establish rules and regulations governing said board, to provide a curriculum and establish a standard of efficiency, to provide the prerequisites and establish a fee for examination, to provide for the disposal of the fund arising from said

fee, to regulate the holding of meetings of said board and issuance of license to practice chiropractic, to provide a penalty for practicing chiropractic without a license as provided by this act, declaring the practice of chiropractic not to be the practice of medicine and surgery, nor osteopathy, and to repeal all acts and parts of acts in conflict herewith.

Be it enacted by the General Assembly of the State of Missouri, as follows:

SECTION 1. That there is hereby created and established a board to be known by the name and style of the state board of chiropractic examiners, and said board shall be composed of three (3) practicing chiropractors of integrity and ability, who shall be residents of the state of Missouri and who shall have practiced chiropractic continually in the state of Missouri for a period of at least one year. No two members of said board shall be graduates from the same school or college of chiropractic.

SEC. 2. The governor of the state of Missouri shall within thirty (30) days after the taking effect of this act, appoint three chiropractors, who shall possess the qualifications specified in Section 1 of this act, to constitute the members of said board. Said members shall be so classified by the governor that the term of one shall expire in one year, one in two years, and one in three years from the date of appointment. Annually thereafter the governor shall appoint one member who shall be a licensed practitioner and possess the qualifications specified in Section 1 of this act, to serve for a period of three years, and shall fill all vacancies in said board caused by death or otherwise as soon as practicable.

SEC. 3. (a) Said board of chiropractic examiners shall convene within thirty days after their appointment and elect a president, a vice-president, and a secretary-treasurer from their membership.

(b) Said board shall hold sessions at such places and such times as the board may decide; if necessary they may meet the first week in January, April, June and October, respectively, of each year, and shall publish such dates for examinations and place of meeting in some newspaper of general circulation at least fifteen days prior to said meeting.

(c) Said board shall have authority to administer oaths, take affidavits, summon witnesses and take testimony as to matter pertaining to their duties. They shall adopt a seal, which shall be affixed to all licenses issued by them and shall from time to time adopt such rules and regulations as they deem proper and necessary for the performance of their duties, and they shall adopt a schedule of minimum educational requirements, which shall be without prejudice, partiality or discrimination as to the different schools of chiropractic. The secretary of said board shall keep a record of the proceedings of the board which shall at all time be open to public inspection. Said board shall also keep on file with the secretary of state a copy of their rules and regulations for public inspection, and shall elect annually a president, vice-president and a secretary-treasurer. A majority of the board shall constitute a quorum.

(d) A license to practice chiropractic within this state shall be issued to the individual members of said board at the first meeting of said board upon payment of the regular fee as provided for in this act.

SEC. 4. It shall be unlawful for any person to practice chiropractic in this state unless he shall have first obtained a license as provided in this act; provided, however, that nothing in this act shall apply to or effect any persons who are now actually engaged in the practice of such profession, except as herein after provided.

SEC. 5. (a) Any person wishing the right to practice chiropractic in this state, before it shall be lawful for him to do so, shall make application to said board of chiropractic examiners through the secretary-treasurer thereof, upon such form thereof and in such manner as may be adopted and directed by the board at least fifteen (15) days prior to any meeting of said board. Each applicant shall be a graduate of a chartered chiropractic school or college which teaches a course of three years of six months each or more, or its equivalent, requiring actual attendance in same. Applications shall be in writing and shall be signed by the applicant in his or her own handwriting and shall be sworn to before some officer authorized to administer oaths, and shall recite the history of the applicant as to his or her educational advantages, his or her experience in matters pertaining to a knowledge of the care of the sick, how long he or she has studied chiropractic, under what teachers, what collateral branches, if any, he or she has studied, the length of time he or she has engaged in clinical practice; accompanying the same by reference therein, with any proof thereof in the shape of diplomas, certificates, etc., and shall accompany said application with satisfactory evidence of good character and reputation.

(b) There shall be paid to the secretary-treasurer of the state board of chiropractic examiners by each applicant for a license, a fee of twenty-five dollars (\$25.00), fifteen dollars (\$15.00) of which shall accompany application and the remainder, ten dollars (\$10.00), shall be paid upon issuance of license. Like fees shall be paid for any subsequent examination and application.

SEC. 6. (a) Examination for license to practice chiropractic shall be made by said board according to the method deemed by it to be the most practicable and expeditious to test the applicant's qualifications. Such application shall be designated by a number instead of his or her name so that the identity will not be discovered or disclosed to the members of the board until after the examination papers are graded.

(b) All examinations shall be made in writing, the subjects of which shall be as follows: Anatomy, physiology, symptomatology, hygiene, chiropractic orthopedy, principles of chiropractic and adjusting, as taught by chiropractic schools and colleges. A license shall be granted to all applicants who shall correctly answer seventy-five per centum (75%) of all questions asked, and if any applicant shall fail to answer correctly sixty per centum (60%) of the questions on any branch of said examination he or she shall not be entitled to a license.

(c) Any chiropractor who has complied with the provisions of this act may adjust by hand any articulations of the spine, but shall not prescribe for or administer to any person any medicine or drugs now or hereafter included in materia medica, perform any minor surgery, only as hereinbefore stated, nor practice obstetrics, nor practice osteopathy.

SEC. 7. All chiropractors practicing within this state three (3) months, prior to the passage of this act, shall be granted a license as herein provided, without examination, provided that application be made within sixty (60) days after the taking effect of this act and accompanied by the required fee, as herein provided.

SEC. 8. (a) The state board of chiropractic examiners may refuse to grant or may revoke a license to practice chiropractic in this state, or may cause a licensee's name to be removed from the records in the office of the recorder of deeds in this state upon any of the following grounds, to-wit: The employment of fraud or deception in applying for a license or in

passing an examination provided for in this act; the practice of chiropractic under a false or assumed name, or the impersonation of another practitioner of like or different name; the conviction of a crime involving moral turpitude; habitual intemperance in the use of ardent spirits, narcotics or stimulants to such an extent as to incapacitate him or her for the performance of their professional duties. Any persons who is a licensee, or who is an applicant for a license to practice chiropractic against whom any of the foregoing grounds for revoking or refusing a license is presented to said board with a view of having the board revoke or refuse to grant a license, shall be furnished with a copy of the complaint and shall have a hearing before said board in person or by attorney, and witnesses may be examined by said board respecting the guilt or innocence of said accused.

(b) Said board may at any time within two years of the refusal or revocation or cancellation of registration under this section, by a majority vote, issue a new license or grant a license to the person affected, restoring him to or conferring upon him all the rights and privileges of and pertaining to the practice of chiropractic as defined and regulated by this act. Any person to whom such have been restored shall pay to the secretary-treasurer the sum of twenty-five dollars (\$25.00) upon issuance of a new license.

SEC. 9. (a) Every person who shall receive a license from the state board of chiropractic examiners shall have it recorded in the office of the recorder of deeds of the county of which he resides and shall likewise have it recorded in the counties to which he shall subsequently remove for the purpose of practicing chiropractic.

(b) The failure or refusal on the part of the holder of a license to have it recorded before he or she shall begin the practice of chiropractic in this state after having been notified by the state board of chiropractic examiners to do so, shall be sufficient grounds to revoke or cancel a license and render it null and void. The recorder shall keep for public inspection, in a book provided for that purpose, a complete list and description of the licenses recorded by him. When any such licenses shall be presented to him for record, he shall stamp upon the face thereof his signed memorandum of the date when such license was presented for record.

SEC. 10. All persons practicing chiropractic within this state shall pay on or before the first day of September of each year, after a license is issued to them as herein provided, to said board of chiropractic examiners a renewal license fee of two dollars (\$2.00). The secretary-treasurer shall thirty (30) days or more before September 1st of each year mail to all chiropractors in this state a notice of the fact that the renewal fee will be due on or before the first of September. Nothing in this act shall be construed so as to require that the renewal receipts shall be recorded as original licenses are required to be recorded.

SEC. 11. (a) All examination and renewal fees received by the state board of chiropractic examiners under this act shall be paid to the secretary-treasurer of said board, who shall at the end of each year deposit the same with the state treasurer, and the said state treasurer shall place said money so received in a special fund of the state board of chiropractic examiners and shall pay the same out on warrants drawn by the auditor of the state thereof, upon vouchers issued and signed by the president and the secretary-treasurer of said board. Said moneys so received and placed in said fund may be used by the state board of chiropractic examiners in defraying their expenses in carrying out the provisions of this act.

(b) The secretary-treasurer shall keep a true and accurate account of all funds received and all vouchers

issued by the board; and on the first day of December of each year he shall file with the governor of the state a report of all receipts and disbursements and the proceedings of said board for the fiscal year.

(c) The members of said board shall receive a per diem of ten dollars (\$10.00) for each day during which they shall be actually engaged in the discharge of their duties, and mileage at the rate of three cents (3c.) per mile for each mile necessarily traveled in going to and from any meeting of said board.

(d) Such per diem and mileage and such other incidental expenses necessarily connected with said board shall be paid out of the fund of the state board of chiropractic examiners and not otherwise.

(No Sec. 12 in Bill.)

SEC. 13. The treasurer of said board shall give bond in such sum and with such sureties as the board may deem proper. Upon sufficient proof to the governor of the inability or misconduct of a member of the board, said member shall be dismissed and the governor shall appoint as his successor some licensed chiropractor practicing in this state who shall be a graduate of a different school than those represented on the board.

SEC. 14. Persons licensed to practice chiropractic under the laws of any other state having equal requirements of this act, may, at the discretion of the board, be issued a license to practice in this state without examination, upon payment of the fee of twenty-five dollars (\$25.00) as herein provided.

SEC. 15. Any person who shall practice or attempt to practice chiropractic, or any person who shall buy, sell, or fraudulently obtain any diplomas or license to practice chiropractic, whether recorded or not, or who shall use the title chiropractor, D.C. Ph.C., or any other word or title to induce belief that he or she is engaged in the practice of chiropractic without first complying with the provisions of this act, or any person who shall violate any of the provisions of this act, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars (\$50.00) nor more than two hundred dollars (\$200.00), or by imprisonment in the county jail for not less than thirty days (30), nor more than one year, or both, at the discretion of the court. All subsequent offenses shall be punished in like manner. Nothing in this act shall be construed to interfere with any other method or science of healing in this state.

SEC. 16. It shall be the duty of the several prosecuting or district attorneys of this state to prosecute all persons charged with the violation of any of the provisions of this act. It shall be the duty of the secretary-treasurer of said board, under the direction of said board, to aid said attorneys of this state in the enforcement of this act. Chiropractic declared not to be the practice of medicine and surgery, nor a branch thereof; nor the practice of osteopathy, nor a branch thereof.

SEC. 17. Chiropractic is hereby declared not to be the practice of medicine and surgery, nor a branch thereof, as defined within the meaning of Article I, Chapter 78, relating to medicine and surgery of the laws of this state, and not subject to the provisions of said article (R. S., Mo., 1909); and chiropractic is also hereby declared not to be the practice of osteopathy, nor a branch thereof, as defined in Chapter 92, relating to osteopathy, of the laws of this state, and not subject to the provisions of said chapter (R. S., Mo., 1909).

SEC. 18. All acts and parts of acts in conflict herewith are hereby repealed.

SEC. 19. This act shall take effect and be in force from and after its passage and publication.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
Webster County Medical Society, Jan. 1, 1915.
Sullivan County Medical Society, Jan. 2, 1915.
Cooper County Medical Society, Jan. 16, 1915.
Camden County Medical Society, Feb. 2, 1915.
Daviess County Medical Society, Feb. 22, 1915.
Atchison County Medical Society, March 25, 1915.

MISSOURI STATE MEDICAL ASSOCIATION

Fifty-Eighth Annual Session, St. Joseph,
May 10-12, 1915

PRELIMINARY ANNOUNCEMENT OF PROGRAM

George A. Aiken, Malta Bend: A Brief Discussion of Twilight Sleep.

Benjamin Belove, Kansas City: Research in the Mechanical Pathology of the Foot with Theoretical Suggestion of a More Rational Treatment. (Illustrated with stereopticon views.)

V. P. Blair, St. Louis: Factors of Safety in Goiter Operations.

C. F. Briegleb, St. Clair: Bacterins or Bacterial Vaccines in General Practice.

John Young Brown, St. Louis: Will the Profession Have to be Re-educated on the Subject of Appendicitis?

C. E. Burford, St. Louis: Kidney Tuberculosis.

E. L. Cooley, St. Louis: Deformities of the Foot. (Illustrated with lantern slides.)

H. S. Crossen, St. Louis: Choice of Operation in the Various Classes of Cases of Retrodisplacement of the Uterus.

Wm. Engelbach, St. Louis: Diagnosis and Treatment of Abdominal Ptosis.

Ellis Fischel, St. Louis: Discrimination in the Use of Methods to Produce Surgical Anesthesia.

C. B. Francisco, Kansas City: Early Management of Anterior Poliomyelitis.

Fred B. Hall, St. Louis: X-Ray Study in Colon Stasis.

Charles Geiger, St. Joseph: The Modern Treatment of Fractures.

James P. Henderson, Kansas City: Renal Tuberculosis.

Roland Hill, St. Louis: Surgery of Goiter.

George Ives, St. Louis: Hodgkin's Disease.

J. L. McDermott, Kansas City: Treatment of Epithelioma by Roentgen Ray.

J. Park Neal, Kansas City: Causes and Treatment of Non-Union of Fractures.

Frank C. Neff and J. C. Bunton, Kansas City: Infantile Syphilis and Neosalvarsan.

C. M. Nicholson, St. Louis: Renal Hematuria.

Frank G. Nifong, Columbia: A Question in Dealing with Abdominal Adhesions.

Herman E. Pearse, Kansas City: Gastro-Enterostomy.

B. A. Poorman, Kansas City: Empyema.

Ola Putman Marceline: A Report of Cases of Pneumonia Treated with Rosenau and Hektoen's Antigen.

R. L. Ramey, Garden City: Applied Therapeutics. Ernest Sachs, St. Louis: Factors that Make for Better Results in Cranial Surgery. (Illustrated.)

John D. Seba, Bland: Etiological Factors in Vomiting of Pregnancy and How to Overcome Them.

J. W. Sherer, Kansas City: Congenital Absence of Crystalline Lens.

R. L. Sutton, Kansas City: The Symptomatology and Treatment of Alopecia Areata.

Percy Swahlen, St. Louis: Thrombosis in Obstetrical and Gynecological Practice.

Albert E. Taussig, St. Louis: Some American Strophanthus Preparations.

J. H. Thompson, Kansas City: Intraocular Sarcoma.

W. G. Thompson, Holden: Misleading Symptoms of Lesions of the Abdominal Viscera.

Charles H. Wallace, St. Joseph: Essential Hemorrhage from the Uterus.

Francis E. Wilhelm, Kansas City: Preventive Medicine in Obstetrics.

W. J. Wills, Sedalia: Treatment of Syphilis.

E. C. Wittwer, Mountain Grove: By-Ways of Medicine.

These are arranged alphabetically in the names of authors. The final program will be arranged later in the order of delivery.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Eighteenth Meeting, Lecture Room, Department of Pathology, Barnes Hospital, Jan. 11, 1915

38. DEMONSTRATION OF CASES: (a) TUMOR OF THE SPINAL CORD. (b) TUMOR OF THE ACOUSTIC NERVE. (c) ANEURYSM OF THE OPHTHALMIC ARTERY.—By DR. E. SACHS

The three cases I am reporting to-night, aside from their clinical interest, demonstrate certain physiological and anatomical points of interest.

The first patient had an intradural extraspinal fibroma in the region of the sixth dorsal segment. The symptoms had been present for about three years. At one time the patient was completely paralyzed and then, prior to admission, showed a slight improvement. There was marked spasticity with all reflexes markedly increased, and a loss of sensation on both sides of the body from a point a little below the nipple line. Bladder and rectal control were interfered with. The lumbar puncture showed the typical fluid known as xantho-chromia, a highly colored yellow fluid with none of the normal constituents of cerebrospinal fluid. This condition has been considered characteristic of either an inflammatory process or an interference with the cerebrospinal circulation. The removal of the tumor was a simple procedure. There was no hemorrhage and the fact that the tumor in its growth had cut off its own blood supply by pressure probably accounts for the slight improvement that occurred in the past six months. At present, the patient shows a typical Brown-Sequard paralysis, but on the anesthetic side sensation is more seriously interfered with near the point of compression than in the more distal regions. This is to be explained by the fact that the fibers cutting into the spinal cord

lower down are crowded between the median line by the fibers higher up so that the greatest pressure would be exerted on the fibers that come in nearest the point of pressure. The other point of interest is the Brown-Sequard paralysis. Though we find this condition clinically, Brown-Sequard himself subsequently denied the existence of such a thing.

The second case, as the patient has left the hospital I can only report and demonstrate the specimen. A tumor in the cerebellar pontal angle involved the eighth, seventh and fifth nerves. There is also an interesting nystagmus with two components which should be readily differentiated, a rapid and a slow one. The significance of this nystagmus as well as the absence of any involvement of the motor branch of the fifth nerve are the points that particularly interest here. (Here follow remarks about the work of Barany on the vestibular nerve and on the cerebral route of the fifth nucleus and its significance.) The tumor was removed by a bilateral cerebellar decompression. As the capsule had to be split to remove the tumor, some fragments of the tumor were left and it is a question whether these will degenerate or recur. The tumor was a rather cellular fibroma, quite typical of the so-called acoustic fibromas.

The third case was that of a traumatic aneurysm of the ophthalmic artery which apparently has been cured by gradual occlusion of the common carotid artery. This case is of particular interest from an anatomical standpoint with a view of explaining why the lateral circulation should not have been reestablished through the circle of Willis. This patient from a clinical standpoint demonstrates the wisdom of the Matas procedure of occluding large arteries slowly so that collateral circulation in this case to the cerebrum can be properly established.

39. TUBERCULIN REACTIONS IN CHILDHOOD.

—By DRs. BORDEN VEEDER AND MEREDITH JOHNSTON

The statement that 90 per cent. or more of all children at the age of puberty are infected with the tubercle bacillus has appeared very frequently during the past few years. This figure is largely based upon results obtained in Vienna by Hamburger and Monti who tested 529 children, using the intradermic tuberculin reaction. Von Pirquet using the cutaneous reaction found a somewhat lower incidence, but that at least 80 per cent. of the children between the age of ten and fourteen were infected. As far as we have been able to determine, no large series of cases have been reported from America. We have collected the tuberculin reactions in about 1,200 cases which were seen in the out-patient dispensary or admitted to the Children's Hospital during the past two and one-half years and have found the following incidence of infection with the tubercle bacillus as shown by the cutaneous tuberculin test:

Under 1 year.....	10	per cent.
1- 2 years	25	per cent.
2- 4 years	29	per cent.
4- 7 years	36.4	per cent.
7-10 years	40	per cent.
10-14 years	42	per cent.

This includes over 250 cases in which there was a clinically manifest tuberculosis. In the remaining 950 cases the infection with the tubercle bacillus was only manifested by the positive tuberculin reaction. A group of over 100 children were tested by both the cutaneous and intradermic methods. In only seven cases was the reaction positive with the intradermic test and negative to the cutaneous test.

The children in our service were relatively of the same class as were tested by Hamburger and by Von

Pirquet, being hospital cases which were ill. Our figures would seem to show that infection with the tubercle bacillus was far less common in St. Louis than in Vienna and that no generalized figures can be taken from one city and applied to another locality. In our series we found but five cases of tuberculin insensitiveness, all of which occurred in patients with far advanced tuberculous manifestations shortly before death.

40. DEMONSTRATION OF A CASE OF HYSTERICAL BLINDNESS WITH PRESERVATION OF COLOR SENSE.—

By DR. SIDNEY I. SCHWAB

Blindness in this case had lasted for five years, following an attack of uremia at the birth of the first child. The uremic attack was accompanied by edema convulsions, loss of consciousness and sudden blindness. The child was born alive and is at the present date well.

When the patient recovered consciousness she was unable to see. Patient has been in this condition more or less since that time. At present she has a central limitation of the field of vision, tubular vision field, a reversion of the color fields within the tubular field, and is able to recognize all primitive colors at variable distances.

The ophthalmoscopic examinations made at various times show normal findings. The x-ray plate shows no enlargement of the sella turcica; there are no abnormalities of the ocular mechanism in any way. Many tests were carried out to show that the patient saw but is unconscious of the fact that she does see.

The case was presented mainly for an opportunity to bring out the hypothesis of Janet's, that in cases of hysterical blindness the visual mechanism is dissociated in such a way that the patient preserves the conscious power of seeing in the central field while the peripheral field remains subconscious and automatic. At the demonstration various tests were carried out to show these facts.

41. POSTERIOR-NASAL OBSERVATION BY MEANS OF THE NASO-PHARYNGOSCOPE.—By DR. C. ARMIN GUNDELACH

Following the initial suggestion made Nov. 29, 1913, that the naso-pharyngoscope be used to further our knowledge of intra-sphenoidal and intra-antral pathologic conditions, I recorded many observations. The naso-pharyngoscope for intra-sinuous exploration means to the rhinologist what the ophthalmoscope means to the ophthalmologist. By means of the naso-pharyngoscope one is able to view parts of the nasal region hitherto obscured from observation.

Important anatomical relations of the sphenoid and sphenoidal sinus to cranial nerves and vessels were recalled briefly. With such relationships existent the great importance of the district from a clinical point of view is obvious.

The difficulties with which comprehensive and trustworthy observations of this district have been beset have always been exceedingly great. Obscure cases examined with the naso-pharyngoscope often give definite diagnostic results.

After operative procedures in the posterior district of the nose a comprehensive idea of intra-nasal surgical technic can often be obtained.

The inspection of the interior of the sphenoid takes on interest and importance where the sinus is being opened for the relief of headaches, and particularly those forms which are thought to originate in a non-suppurative condition. Prolongations of the sphenoidal sinus into the anterior clinoid process and into the pterygoid process which had filled with purulent secretion have been diagnosed.

So far I know a hyperplastic sphenoiditis has been diagnosed only by inference. By means of the naso-pharyngoscope I have diagnosed several such cases.

In cases where well made (operative) openings have closed up and landmarks have become obliterated through the growth of new bone or by traumatic periostitis the naso-pharyngoscope will aid in ascertaining the exact conditions and help to clear up the extent and type of the pathological process.

Defects in the instruments have led me to attempt the construction of a new instrument, now in its experimental stage.

ST. LOUIS MEDICAL SOCIETY

JANUARY 30, 1915

The meeting was called to order at 8:45 p. m. by the president, Dr. R. Emmet Kane.

The minutes of the previous meeting were read and approved.

Mr. Alfred Fairbanks of the Board of Children's Guardians gave a brief address on the "Care of the Feeble-Minded in Missouri."

It was moved and seconded that a vote of thanks be extended Mr. Fairbanks and that this matter be referred to the Committee on Health and Public Instruction, they in turn communicating it to the Committee on Public Health and Legislation of the Missouri State Medical Association, who will communicate what is necessary to the senators and representatives.

The president called on Dr. John Young Brown to introduce the guest of the evening, Dr. Lewis S. McMurtry of Louisville, Ky.

Dr. McMurtry read a paper entitled, "Louis Pasteur."

Drs. Grindon, Funkhouser and Boisliniere discussed the paper.

Dr. Benjamin M. Hypes moved a rising vote of thanks be extended Dr. McMurtry. Seconded.

Dr. Koetter moved an amendment to the motion and that the by-laws be suspended and Dr. McMurtry be made an honorary member of the St. Louis Medical Society. Seconded and carried.

The president announced the death of Dr. Wm. G. Moore, an ex-president of the Society. He stated that it had been his intention to appoint all the living ex-presidents as honorary pallbearers, but as this did not meet the wishes of the family, he had, through its personal representative, selected the following eight from among the former presidents: Drs. J. Henry Amerland, Louis H. Behrens, George Homan, Benjamin Hypes, Alonzo R. Kieffer, John C. Morfit, Clarence M. Nicholson and Henry Schwarz.

Dr. C. W. Tooker, chairman of the Committee on Ethics, reported the committee had received reports and letters relative to the activity of one of the hospitals of St. Louis, and that the committee, before proceeding, desired to have instructions and a specific indication of the feeling of the Society in the matter. He read an extract from a letter relative to lectures at the St. Louis Children's Hospital, the writer taking exceptions to the subjects of the lectures and to the publicity given them.

Dr. Hillel Unterberg moved the committee be amplified by the appointment of four more members of the Society to investigate the infringement of ethics.

The president ruled the motion out of order, as that duty was already provided for by the existing committee and stated that to add to a committee could only be done through suspension of the by-laws.

Dr. Unterberg appealed from the ruling of the chair, and at the request of the president, First Vice-President Emmet P. North took the chair.

Dr. L. C. Boisliniere moved the decision of the chair be sustained. Seconded and carried; Dr. Kane resuming the chair.

The president asked that motions made before the Society be made definite and said it appeared to him that the Committee on Ethics desired, before taking up the matter of general medical ethics outside of the Society, to know the feeling of the Society in that regard.

Dr. R. E. Schlueter moved: "Be it resolved that the Society expects its Committee on Ethics to investigate all violations of the principles of ethics of the American Medical Association, no matter who is involved."

The motion was seconded and carried.

The president then called the attention of the Society to the new milk ordinance just introduced in the municipal assembly for the purpose of carrying out the provisions of a former ordinance, also to an ordinance before the municipal assembly for the proper wrapping of bread, which were backed by the various civic organizations and the health department. He further stated that he had been that day informed it would be necessary for the Society to take immediate action in regard to the new law regulating the sale of poison, and to one requiring undertakers to wait a certain time before embalming bodies. He asked what action the Society desired to take. No action taken.

Attendance 93.

MEETING OF FEBRUARY 6

The meeting was called to order at 8:30 p. m. by the president, Dr. R. Emmet Kane.

The minutes of the previous meeting were read and approved.

The scientific program consisted of the following: Dr. Louis Swarts presented a patient and demonstrated a case of meningococle.

Dr. O. L. Edwards (by invitation) read a paper entitled, "Gastric Ulcer in the City Hospital."

Dr. George M. Smith read a paper entitled, "Etiology."

Dr. D. L. Penney read a paper entitled, "Laboratory Aids to Diagnosis."

Dr. F. B. Hall read a paper entitled, Roentgen-Ray Aids to Diagnosis."

Dr. E. P. Buddy read a paper entitled, "Differential Diagnosis."

Dr. H. S. McKay read a paper entitled, "Surgical Treatment."

Dr. Walter Baumgarten read a paper entitled, "Medical Treatment."

Discussion by Drs. Horace W. Soper, Olney A. Ambrose, Francis Reder, Wm. Engelbach, John R. Caulk, Louis Dreschler, Albert E. Taussig, Alonzo R. Kieffer, Augustin P. Munsch, Wm. T. Coughlin, Samuel E. Peden, Meyer J. Lippe and R. Walter Mills; Dr. Hall closing.

Dr. Marsh Pitzman, chairman of the Committee on Health and Public Instruction, made a report with reference to the proposed amendments to the Missouri statutes with reference to the poison law, etc., and offered the following resolutions.

WHEREAS, Amendments to the Missouri statutes forbidding the use of arsenic and strychnine in embalming and forbidding the embalming of coroner's cases without first obtaining permission from the coroner, have been proposed, and

WHEREAS, These amendments appear reasonably drawn up and necessary for the proper conduct of the coroner's office, be it

Resolved, That the St. Louis Medical Society go on record as favoring these amendments to the Missouri state legislature, and

WHEREAS, An amendment to the Missouri statutes in regard to the sale of the poisons, carbolic acid and bichlorid of mercury has been proposed, and

WHEREAS, The proposed law appears reasonable and would increase the difficulty of obtaining these poisons for suicidal purposes, be it

Resolved, That the St. Louis Medical Society endorse this amendment to the Missouri state legislature.

It was moved and seconded that the report of the Committee on Health and Public Instruction be adopted.

Dr. E. J. Goodwin, secretary of the Missouri State Medical Association, offered the following resolution:

WHEREAS, The passage of Senate Bill 416 and House Bill 762, known as the optometry bill, would license persons who have no knowledge of the cause and treatment of diseases of the body, to fit glasses, ostensibly for no other purpose than to correct errors of refraction, but would in reality empower such persons to prescribe and fit glasses for the relief and cure of diseases and symptoms of disease, not only of the eye, but of other parts of the body upon the pretext of correcting errors of vision, and

WHEREAS, Defective vision is often merely a symptom of serious disease of other organs of the body and can be interpreted as such only by licensed physicians who have taken the prescribed course of medicine in a reputable medical college and complied with the statutes governing the practice of medicine; therefore, be it

Resolved, That the St. Louis Medical Society protests against the passage of Senate Bill 416 and House Bill 762, and, be it further

Resolved, That we petition the senators and representatives from St. Louis to vote against the passage of these bills and to use their influence to prevent their passage.

Dr. Goodwin moved their adoption which was seconded and carried.

The secretary read two communications from the Civic League, calling the Society's attention to House Bills Nos. 175, 274, 275 and 276.

Dr. Funkhouser moved that House Bills Nos. 274, 275 and 276 be approved by the Society. Seconded and carried.

Dr. Funkhouser further moved that the Society approve of the bread wrapping ordinance, that is House Bill No. 175, and put itself on record as favoring it. Seconded and carried.

Dr. Tooker moved that a committee be appointed by the chair to appear at public hearings on these bills and to further the enactment of the ordinances in so far as it is possible. Seconded and carried.

The president appointed the Committee on Health and Public Instruction to act as this special committee.

Dr. R. M. Funkhouser offered the following resolution:

This Society has with great satisfaction learned of the reindictment of mail-order quacks by the present grand jury. This Society and the public should be congratulated on having a grand jury composed of such men, who have had the courage to do their duty. Therefore, be it

Resolved, That this Society express its great appreciation to the members of the grand jury of its action, and, especially does the Society commend the activity of Messrs. Winn, Reed, Oliver and Hall, who were instrumental in preparing the cases for the grand jury, and that a copy of these resolutions be sent to the above grand jury and to the gentlemen above mentioned.

On motion the resolutions proposed by Dr. Funkhouser were adopted.

Seconded and carried.

The president read a card of thanks from the family of the late Dr. Ludwig P. Pollmann to the Society.

Attendance 188.

MEETING OF FEBRUARY 13

The meeting was called to order at 8:30 p. m. by the president, Dr. R. Emmet Kane.

The minutes of the previous meetings were read and approved.

The scientific program consisted of the following:

Dr. A. H. Hamel presented a specimen of kidney with two ureters.

Mr. George H. Moore, collector of internal revenue, explained the workings of the "New Federal Opium and Cocain Law."

Dr. H. M. Whelpley discussed this law from the physician's viewpoint.

General discussion by Drs. Charles Shattinger, J. Henry Amerland, Louis C. Boisliniere, Given Campbell, Fred W. Patton and L. W. Cape; Mr. Moore and Dr. Whelpley closing.

A vote of thanks was extended to Mr. Moore for his kindness in explaining the Harrison Narcotic Law.

At the request of the chair, Dr. George Dock introduced the guest of the evening, Dr. R. H. Babcock of Chicago, Ill.

Dr. Babcock read a paper entitled, "Bronchial Asthma."

Discussion by Drs. George Dock, Ellsworth Smith, Charles H. Neilson, Llewellyn Sale, Charles Shattinger, William Engelbach and E. Lee Meyers; Dr. Babcock closing.

Dr. Louis H. Behrens moved a rising vote of thanks be extended Dr. Babcock for his most interesting address and that the by-laws be suspended and he be elected an honorary member of the Society. Seconded and carried.

The president announced that the Society had been invited by the St. Louis Engineer's Club of St. Louis to attend a meeting of the club to be held at the Central High School Auditorium on Wednesday, February 24, when Prof. Max Von Recklinghausen will lecture on the use of ultra-violet rays for the sterilization of water supplies.

Attendance 341.

MEETING OF FEBRUARY 20

The meeting was called to order at 8:45 p. m., by the president, Dr. R. Emmet Kane.

The minutes of the previous meeting were read and approved.

The president called Dr. Louis C. Boisliniere to the chair to preside during his absence at the special council meeting.

The scientific program consisted of the following:

Dr. J. B. Shapleigh read a paper entitled, "Insidious Mastoid Inflammation."

Discussion by Drs. Albert F. Koetter, William E. Sauer, Frank A. Glasgow, Montague M. Meyer, Harry W. Lyman; Dr. Shapleigh closing.

Dr. Kane resumed the chair.

Dr. Wm. E. Sauer read a paper entitled, "Otitic Brain Abscess."

Discussion by Drs. Malcolm A. Bliss, Henry Hermann, Frank A. Glasgow, Isaac D. Kelly, John B. Shapleigh, E. Lee Meyer; Dr. Sauer closing.

Dr. Louis C. Boisliniere, chairman of the Necrology Committee, submitted the following report:

Pursuant to the recommendation of the council that special recognition be given the death of our late ex-president, Dr. William G. Moore, your Committee on Necrology suggests that at the next meeting of the Society a special order of business obtain, during which a suitable memorial be presented.

It was moved and seconded that the committee's report be adopted. Carried.

Dr. H. McClure Young, chairman of the Publication Committee, reported as follows: Pursuant to the recommendations of your committee for 1914 and in conformity with the instructions of the council,

the committee has secured bids from various printers for the publication of a bulletin which shall consist of four pages containing all that the present bulletin does, excepting advertising matter and scientific contributions. The best bid was that of Carondelet News Co. who propose to publish a bulletin, as outlined above, for \$16 an issue, including charges for envelopes, folding, mailing and correcting the mailing list. The bill for postage will be approximately \$20 a year. The committee recommends the acceptance of this bid.

It was moved and seconded that the recommendations of the committee be adopted. Carried after discussion by Drs. Joseph Grindon, William D. Black, Norville Wallace Sharpe and Harry J. Cummings.

Dr. E. J. Goodwin, editor of the Journal of the Missouri State Medical Association, announced the Journal would be glad to publish those papers and discussions of the society that had formerly appeared in full in the Bulletin.

Dr. Goodwin also announced that the Committee on Health and Public Instruction had requested him to submit the following:

WHEREAS, House Bill 838 would license persons known as chiropodists to perform the functions of physicians and surgeons on certain parts of the body, contrary to laws now on the statutes governing the safety of the health and physical well being of the people, Therefore Be It

Resolved, That the St. Louis Medical Society is opposed to House Bill 838 and we appeal to our senators and representatives to vote against its adoption.

Resolved, That a copy of this resolution be sent to our members of the General Assembly at once.

WHEREAS, House Bill No. 586, the so-called chiropractor bill, is subversive of the physical welfare of the citizens of St. Louis and of the state and is destructive of the laws already existing governing the care and treatment of the sick and afflicted, Therefore Be It

Resolved, That the St. Louis Medical Society is opposed to the passage of House Bill 586 and earnestly requests the senators and representatives from this city to vote against its adoption and, Be It Further

Resolved, That a copy of this resolution be forwarded to our members of the General Assembly immediately.

It was moved and seconded that the recommendations of the committee be adopted. Carried.

Dr. Goodwin also reported the Optometry Bill had been defeated in the House of Representatives by a vote of 63 to 59.

Attendance ninety.

F. C. E. KUHLMANN, Secretary.

J. ALBERT SEABOLD, Assistant Secretary.

AMERICAN SECTION OF INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS

The American Section of the International Association of Medical Museums held its eighth stated meeting in the lecture room, Department of Pathology, Washington University Medical School, St. Louis, Thursday, April 1, 1915. The preliminary program contained the following papers:

Microscopic Technic: Fixation of Microscopic Sections by Alcohol-Formalin Vapor. Horst Oertel, M.D., Montreal.

Museum Technic: On the Demonstration of Micro-Chemical Reactions in Museum Specimens. A. S. Warthin, M.D. Ann Arbor, Mich.

On the Preservation of War Material for Museum Purposes. J. G. Adami, M.D., Montreal.

Comparative series showing specimens preserved: (a) By the Method of Kaiserling; (b) by Jore's Method, modified by Klotz. E. L. Judah, Montreal.

An Efficient, Inexpensive, Permanent Mounting Fluid for Gross Specimens. Samuel Hawthorn, M.D., Pittsburgh, Pa.

Rapid Maceration of Bone. E. L. Judah, Montreal.

Museum Teaching: Demonstration of Large Mounted Slides to be Used as Lantern Slides. Carl V. Weller, M.D., Ann Arbor, Mich.

Demonstration of Hearts Showing Hypertrophy and Dilatation of Chambers in Fixation by Wollhard's Method. J. C. Meakins, M.D., Montreal.

Hearts Showing India Ink Injection of Auriculo-Ventricular Bundle of His, with Counter-Staining by Sudan III. J. Kaufmann, Montreal.

Lantern Slide Demonstration on the Differentiation of Two Forms of Congenital Dextrocardia. M. E. Abbott, M.D., and J. C. Meakins, M.D., Montreal.

Museum Research: Demonstration of Two Rare Cardiac Malformations. Carl V. Weller, M.D., Ann Arbor, Mich.

Special Exhibit with Demonstration: Series of Specimens Illustrating General Pathology of Bone. Eugene L. Opie, M.D., St. Louis.

Crania from Indian Mounds in Neighborhood of Saint Louis. R. J. Terry, M.D., St. Louis.

Medico-Legal Exhibit Demonstrating Especially the Effects of Poisons and Accidents. Ralph L. Thompson, M.D., St. Louis, Mo.

Series of Specimens Collected at the Autopsy Service of the St. Louis City Hospital. F. A. Baldwin, St. Louis, Mo.

BENTON COUNTY MEDICAL SOCIETY

The regular meeting of Benton County Medical Society was held in Warsaw, Wednesday, February 24, in Dr. Dillon's office. The meeting was called to order at 11 a. m., Dr. J. A. Logan of Fairfield, the new president, in the chair. The regular order of business was transacted, with the reading of a letter from the state secretary, Dr. E. J. Goodwin, referring to the bills that were before the legislature for passage: a chiropody bill and a chiropractor bill. The secretary, upon receipt of same, had corresponded immediately with our representative and senator asking their hearty support to defeat those bills.

A letter was read which was received by the president, Dr. Logan, asking that our Society be represented on the State Association program at the St. Joseph meeting in May, and Dr. H. G. Savage was appointed to prepare a paper to be read at that time.

Dr. Smith presented a case of hemorrhage of the lungs for clinical discussion. Mr. E. D., age 32. Family history negative, with the exception of a brother who had a hemorrhage, from the stomach several years previous. Health had been perfect up to the time of the first hemorrhage which occurred on Thursday prior to first visit on Friday evening. This patient was not what would be classed as a bleeder, yet had somewhat of a waxy appearance of the flesh. Heart action was 90, respiration 26, temperature 99.5 F., tongue coated, breath foul, bowels had been acted on by some local remedy but previously constipated, considerable cough of a dry, hacking nature, with mucous and submucous râles in the extreme apex of the right lung and bronchus. Hemorrhage frequent but not excessive in quantity (1 to 3 ounces). This case was discussed by all present. Up to the time of meeting, 30 hours had been the longest period of control; the last three hemorrhages had been profuse (16 to 20 ounces at a time). Consultation with three physicians had been called but

no result was given although the prognosis was favorable.

Dr. Wendell's application for membership was acted on.

The subject of "dead beat" list was brought up and discussed, to be acted upon at the April meeting.

The next regular meeting will be held in Warsaw the last Thursday in April, with Dr. Jones of Lincoln and Dr. Savage of Warsaw to read papers. Final action will be taken on some business of importance to be brought up at the State Association meeting.

Those present were: Drs. J. P. Van Allen, Cole Camp; E. L. Rhodes, Lincoln; J. A. Logan, Fairfield; E. H. Gist, Fristoe; H. G. Savage, J. M. Dillon, R. L. Pomeroy and J. R. Smith of Warsaw. Dr. E. F. Haynes was not present on account of sickness. Dr. Schwald was a visitor at the meeting.

J. R. SMITH, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, March 3, with twenty-seven members present. The president, Dr. J. F. Owens, called the meeting to order. The minutes of the previous meeting were read and approved.

The special committee having in charge the protest to the Y. W. C. A. and the Y. M. C. A., presented a reply from the Y. M. C. A. which was read and the matter referred to the Medical Service Committee. The committee for securing suitable club rooms reported no progress. On motion of Dr. Caryl Potter, seconded by Dr. Ladd, the following resolution was adopted.

Resolved, That this Special Committee be increased to ten members and this committee draw up a petition and solicit contributions and see how much each member would be willing to give towards sustaining club rooms, either by purchasing a building or renting suitable quarters.

The Entertainment Committee who have in charge this part of the state medical meeting in May, requested the Society to decide what form of entertainment to provide. It was decided to refer this back to the Entertainment Committee with power to act and that their action would meet with the approval of the Society. On motion of Dr. Elam, seconded by Dr. Charles Geiger, the following resolution was adopted:

Resolved, That this Society, as a Society, does not favor the institution of a set form of clinics during the meeting of the State Association.

It was moved by Dr. J. M. Bell that the Entertainment Committee present an approximate amount or budget of what the expenses will be in entertaining the State Association and then proceed to get up a subscription blank and circulate it for subscriptions. This motion carried.

The president added the following names to the committee of three who have in charge the preliminary arrangements for securing and maintaining club rooms: Drs. Todd, Goteler, Byrne, H. Forgraves, C. Geiger, Dandurant, Caryl Potter.

There being no further business to come before the Society, the meeting adjourned.

Meeting of March 17

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, March 17, 1915, the president, Dr. J. F. Owens, in the chair. There were twenty-five members present. The minutes of the previous meeting were read and approved. The secretary read a letter from the National Red Cross Bureau at Washington, in answer to our letter protesting against the issuance of certi-

icates at the Y. M. C. A. and the Y. W. C. A. to students attending lectures conducted by osteopaths, etc. The National Red Cross advised us that the services of osteopaths would not be suitable to the American Red Cross Society and proposes to take this matter up through their general secretary and promise prompt action in the matter. This action was referred to the medical service committee.

Dr. Good, chairman of the Entertainment Committee, reported that his committee would require \$250 in addition to Commerce Club's fund of \$350. For the purpose of raising these funds the president appointed the following finance committee: Drs. John Doyle (chairman), W. L. Kenney and Floyd Spencer.

A clinical case of conjunctivitis, caused by local use of nitrate of silver for trachoma five years ago, was presented by Dr. W. L. Kenney.

A paper was read by Dr. L. A. Todd on "Observations on Hernia." Drs. Pitts, Reynolds, McGill, C. Potter and Bansbach discussed the paper.

A paper by Dr. Caryl Potter on "Demonstration of a New Perineal Board for Use in Perineal Prostatotomies and Genito-Urinary and Rectal Surgery," was read. A discussion followed by Drs. Bansbach, Doyle, Todd, Pitts, Elam, Senior and Farber.

There being no further business to come before the society, the meeting adjourned.

W. F. GOETZE, Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its regular meeting at Cape Girardeau, March 8, with eight members present, Dr. Paul R. Williams, vice-president, presiding.

The resignation of the president of the Society, Dr. George W. Tarlton, was read, and on motion, his resignation as president was accepted and Dr. Paul R. Williams assumed the presidency.

Various correspondence received proper attention. Dr. Young read a paper on Sinusitis which was thorough and well prepared.

No further business, Society adjourned.

E. H. G. WILSON, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society met at Aurora, Mo., Tuesday, March 2, 1915. The meeting was called to order at 10 a. m. by the president, Dr. W. S. Loveland. The following members were present: Drs. F. S. Stevenson, D. C. Adams, C. A. Moore, R. C. Robertson, J. A. Melton, T. D. Miller, W. S. Loveland, E. D. Grigg, C. W. Shelton, W. W. Rodman, J. W. Hynes, J. P. Baird, J. P. Andrews, W. M. Holmes, L. Henson, St. Clair Shumate and C. W. Russell.

Dr. E. B. Wright of Pierce City, made application for membership and was accepted as a member.

The following program was rendered:

Report of a Case, by Dr. C. W. Shelton, Mt. Vernon. Fifty-seven Years Experience in the Practice of Medicine in the Ozarks, by Dr. E. D. Grigg, Verona.

Report of a Case, by Dr. D. C. Adams, Aurora.

Report of a Case, by Dr. F. S. Stevenson, Aurora.

In addition to the above program, several other cases were reported by members.

The next meeting will be held at Galena, June 1, 1915. The members will take their families and all eat dinner on the banks of the James River. It is also intended to have a good speaker present at their meeting to address those present.

R. C. ROBERTSON, M.D., Secretary.

LEWIS COUNTY MEDICAL SOCIETY

The Lewis County Medical Society met at the Hotel Quincy, Quincy, Illinois, Wednesday, March 3. The president being absent, the vice-president, Dr. H. E. Dunlop, called the meeting to order.

After a short business session, two very excellent papers were read: one by Dr. Roy E. Wilson of La Belle on the "Diagnosis of Goiter," and the other by Dr. A. C. Crank of Canton on the "Surgical Treatment of Goiter." Both papers were thoroughly discussed.

It was decided to have the next meeting at Quincy some time in April or the first part of May.

RAY MERCER, M.D., Secretary.

POLK COUNTY MEDICAL SOCIETY

The Polk County Medical Society met in regular session March 9, 1915, in the I. O. O. F. hall, Fair Play, Mo. The meeting was called to order by the president, Dr. C. H. Brown. The following members were present: Drs. Stufflebaum and Russell, Humansville; Dr. Nevins, Flemington; Dr. McLaughlin, Aldrich; Drs. Brown, Coy and Hunt, Fair Play. Visiting members present were Drs. M. C. Stone, Wallis Smith, T. A. Coffelt and H. A. Lowe, Springfield.

Dr. M. C. Stone read a paper on "Practical Points on Wassermann Tests." Discussed by Drs. T. A. Coffelt and Wallis Smith.

Dr. C. H. Brown read a paper on "Pyonephrosis." General discussion followed.

Dr. Wallis Smith read a paper on "Treatment of Gall-Bladder Infections." Discussed by Dr. A. J. McLaughlin and others.

On motion duly seconded, Drs. Smith and Stone were made honorary members of Polk County Medical Society.

On motion made and carried, the president was authorized to wire our representative and senator at Jefferson City to endorse bills creating county tuberculosis hospitals and providing tuberculosis visiting nurse.

The meeting adjourned to meet in Bolivar the second Tuesday in June, 1915.

C. H. BROWN, M.D., President.

J. W. COY, M.D., Acting Sec.

WEBSTER COUNTY MEDICAL SOCIETY

The Webster County Medical Society held its quarterly meeting at the office of Dr. J. R. Bruce, Marshfield, March 17, 1915. The meeting was called to order at 10 a. m. by Dr. J. W. Good, president. Drs. Highfill, Wells, Good, Rabenau, Sayers, Adkins, Bailey and Bruce answered the roll call. Dr. E. J. Goodwin, secretary of the State Association, and Dr. W. R. Beatie of Springfield, were also present as invited guests.

The report of the secretary-treasurer and minutes of the last meeting were read and approved after which the regular business was taken up. It was voted to inform the doctors who were delinquent to settle up and hold their membership in good standing. It was voted that our delegate be instructed to vote in favor of the amendment to the constitution, and the work of our representative, Mr. John V. Atteberry, was approved.

There was a lively discussion of the Harrison antinarcotic law and all present thought it would prove beneficial. The meeting adjourned at noon to take dinner at the Webster Hotel.

The afternoon session opened at 1:30 p. m., and Dr. Goodwin gave us a good talk on the state and

county societies and why all interests should be in common and work together. He invited our members to take hold and help THE JOURNAL by contributing papers to make it interesting to all members.

Dr. Sayers reported a very interesting case of acne which was also discussed.

It was voted to hold our next meeting in June at Belle Springs and have a basket picnic with our families.

Adjourned at 3 p. m.

J. R. BRUCE, M.D., Sec.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

CHOLERA SEROBACTERIN, MULFORD (SENSITIZED CHOLERA VACCINE).—Marketed in packages of three syringes. H. K. Mulford Co., Philadelphia.

MENINGO-SEROBACTERIN, MULFORD (SENSITIZED MENINGOCOCCUS VACCINE).—Marketed in packages of three syringes. H. K. Mulford Co., Philadelphia.

TYPHO-SEROBACTERIN MIXED, MULFORD (SENSITIZED TYPHOID VACCINE).—Packages of three syringes containing graduated mixtures of killed sensitized bacillus typhosus, killed sensitized bacillus paratyphosus A, and killed sensitized bacillus paratyphosus B. H. K. Mulford Co., Philadelphia, Pa. (*Jour. A. M. A.*, March 13, 1915, p. 909).

PROPAGANDA FOR REFORM

WATERMAN'S TONIC RESTORATIVE.—Examination in the A. M. A. Chemical Laboratory showed this "epilepsy cure" to be a bromid mixture, containing bromide equivalent to 17.6 grains potassium bromid per fluidram. The recommended daily dose of five teaspoonfuls corresponds to 88 grains potassium bromid. Caring little for the health or safety of those who use the nostrum, the promoters advise an increased dosage if required "to stop the 'Fits,'" thus leaving the dosage with the user, who is assured that the nostrum is "safe" (*Jour. A. M. A.*, March 6, 1915, p. 847).

DR. KLINE'S NERVE REMEDY.—This "epilepsy cure" is sold by the R. H. Kline Company, 45-47 East Twentieth street, New York City, this being the same address as that of the Lexington Drug and Chemical Company which sends out the Waterman "epilepsy cure" (see above). Examination in the A. M. A. Chemical Laboratory showed this bromid mixture to be practically identical with Waterman's Tonic Restorative (*Jour. A. M. A.*, March 6, 1915, p. 848).

LIQUID PARAFFIN (LIQUID PETROLATUM).—W. A. Bastedo reports the results of a clinical investigation made under the auspices of the Therapeutic Research Committee of the Council on Pharmacy and Chemistry to determine the relative efficiency of the different preparations on the market. Three specimens were sent out: a heavy Russian liquid petrolatum, a light Russian liquid petrolatum and an American liquid petrolatum—being distinguished only by number or letter. From extended trials in hospitals it is apparent that all acted alike. Only slight differences as to palatability were noted by some (*Jour. A. M. A.*, March 6, 1915, p. 808).

SANMETTO.—The Council on Pharmacy and Chemistry finds that Sanmetto is a secret nostrum the exploitation of which is an invitation to haphazard, uncritical therapy and a menace to public health. It is claimed that "Sanmetto is a blending of true santal and saw palmetto with soothing demulcents in a pleasant aromatic vehicle," but neither the identity of the "demulcents" nor the quantities of the other ingredients are given. The recommendations for the use of Sanmetto are unwarranted, absurd and vicious. The advertising claims are likely to induce some physicians to belittle the importance of diseases of the sexual organs and to be content with the prescribing of Sanmetto to the detriment of the patient and the danger of the community (*Jour. A. M. A.*, March 13, 1915, p. 926).

COLCHI-SAL.—Colchi-Sal is sold by E. Fougera & Co., Inc., in capsules stated to contain the "active principle" of cannabis indica, colchicin, methyl salicylate and "appropriate aromatic adjuvants." It is recommended in "Gouty and Chronic Rheumatic Manifestations," "acute cases of Gout," "intestinal autointoxication or dyspepsia," "bilious headaches," etc. The Council on Pharmacy and Chemistry found Colchi-Sal ineligible for New and Nonofficial Remedies because the indefinite character of the "active principle" of cannabis indica made its composition secret, because it was advertised indirectly to the laity, because unwarranted therapeutic claims were made for it, because the name does not indicate the habit-forming cannabis indica and because the composition was held unscientific (*Jour. A. M. A.*, March 20, 1915, p. 1016).

WATERBURY'S COMPOUND.—Four years ago the Council on Pharmacy and Chemistry reported unfavorably on "Waterbury's Cod Liver Oil Compound." Having been requested to consider again the product, now known as "Waterbury's Compound," the Council found that there was no evidence that it is a substitute for cod liver oil. It held that Waterbury's Compound is advertised with misleading claims and therefore voted that no further consideration be given to it (*Jour. A. M. A.*, March 20, 1915, p. 1016).

STRYCHNIN AND CAFFEIN AS CARDIOVASCULAR STIMULANTS.—F. H. Newburgh has studied the effects of strychnin and caffein in acute infectious diseases. He finds that strychnin sulphate in medicinal doses does not increase the output from the heart, slow the pulse or materially raise the blood pressure. He concludes that there is no logical basis for its use as a cardiovascular stimulant. Further, he finds that caffein sodio-salicylate, in ordinary dosage, does not raise the blood pressure or slow the pulse. His experiments did not determine if caffein increased the blood flow (*Arch. Int. Med.*, March 15, 1915, p. 458).

NEURILLA.—To show how a practically worthless mixture may be exploited by means of ill-considered testimonials, the Council on Pharmacy and Chemistry publishes a report on Neurilla, apparently the sole output of the Dad Chemical Company. Neurilla, according to the manufacturer's claims, depends for whatever virtues it has on two generally discarded drugs, skullcap and passion flower, present in unstated amounts, "aromatics" and 20.3 per cent. alcohol. It is advertised as a "nerve tonic" and is said to be "A Valuable Aid in the Treatment of Fevers, Colds, La Grippe, etc." Inquiries sent to some of the physicians whose testimonials were used to promote Neurilla brought replies indicating these testimonials to have been given thoughtlessly and on insufficient experience. In most cases the writers stated that they had abandoned the use of Neurilla long ago (*Jour. A. M. A.*, March 27, 1915, p. 1093).

GUERTIN'S NERVE SYRUP.—This is an epilepsy treatment sold by the Kalmus Chemical Co., Cincinnati, Ohio. Examination in the A. M. A. Chemical Laboratory demonstrated Guertin's Nerve Syrup to be essentially a mixture of several bromides, the bromide content being equivalent to 13.9 grains potassium bromide per fluidram. The recommended daily dose of 4 to 8 teaspoonfuls is equivalent to 55.6 to 111.2 grains potassium bromide. While possessing all the potency for harm that resides in secret mixtures of the bromides, the purchaser of this nostrum is led to believe that it is harmless (*Jour. A. M. A.*, March 27, 1915, p. 1094).

BOOK REVIEWS

PROGRESSIVE MEDICINE. A quarterly digest of advances, discoveries and improvements in medical and surgical sciences, edited by Hobart Amory Hare, M.D., and Leighton F. Appleman, M.D. Octavo of 405 pages, illustrated. Philadelphia and New York: Lea & Febiger, 1914. Price per year, paper, \$6.

The closing number of volume four contains the following subjects: Diseases of the Digestive Tract and Allied Organs, the Liver, Pancreas and Peritoneum; Diseases of the Kidneys; Genito-Urinary Diseases; Surgery of the Extremities; Shock, Anesthesia, Infections, Fractures and Dislocations, and Tumors; Practical Therapeutic Referendum. A comprehensive index concludes the volume.

SEROLOGY OF NERVOUS AND MENTAL DISEASE. By D. M. Kaplan, Director of Clinical and Research Laboratories of the Neurological Institute, New York; Serologist at the Montefiore Home. Illustrated. W. B. Saunders & Co., 1914.

The rapid progress in diagnostic fields, especially marked in the department of nervous and mental pathology, has made welcome to us all such books as this of Kaplan, which is based on observations collected in the daily clinical and laboratory duties connected with the neurological institute.

We need just such careful and detailed instruction as this book affords to orient us in the broadening realm of diagnostic possibilities. Especially the sections comprising part one which give minute details of the technic of spinal puncture. The examination of the fluid together with the technic of the Wassermann reaction, and the elucidation of it, as well as the various modifications of the Wassermann reaction are minutely and concisely set forth.

We feel that this book well repays earnest study.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume III, No. 6 (December). Octavo of 175 pages. Illustrated. Philadelphia and London: W. B. Saunders Company, 1914. Published bimonthly. Price per year: Paper, \$8; cloth, \$12.

This number contains the following: Description of the New Offices of Dr. John B. Murphy and his Staff; Murphy's Clinical Talks on Surgical and General Diagnosis; Auto-Sensitized Autogenous Vaccines (Preliminary Report); Impacted Fracture of External Tuberosity of Tibia; Sarcoma of the Right Tibia; Exostosis of Interarticular Surface of Upper End of Left Tibia; Multiple Metastatic Arthritides; Cartilaginous Exostosis of Left Humerus; Bilateral Tuberculous Epididymitis with Abscess Formation; Gummatous Tumor of the Testicle; Perforating Duodenal Ulcer Fixed to the Anterior Abdominal Wall; Retroperitoneal Sarcoma of the Upper Abdomen, Filling up the Lesser Peritoneal Cavity and the index to Volume III.

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S. P. CHILD, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

INSIDIOUS MASTOIDITIS*

J. B. SHAPLEIGH, M.D.
ST. LOUIS

I have used the term "insidious" in the title of this paper because it seems descriptive of certain atypical forms of mastoid inflammation in which extensive tissue destruction may be present without the usual well-known symptoms.

This condition has not received the attention in our text-books that its importance warrants, and, while otologists are well aware of the occurrence of such cases and of the further fact that the severity of the local symptoms is no measure of the extent of the intra-osseous damage that may be present, it may not be so well known to the general profession that these conditions may develop without fever, otorrhea, pain or local tenderness.

The two cases whose histories are presented were chosen as illustrating these points, and because they present contrasting forms of this insidious process; in one the signs were entirely local, with no general symptoms whatever, while in the other the predominant symptom was fever, the local indications being negative as regards the actual condition found.

CASE 1.—John D., aged 2 years, was first seen July 12, 1913. He had always been well and had had no previous ear trouble. About six months ago it was noticed that he frequently pulled or picked at his left ear, but this was thought to be merely a habit, as the child seemed perfectly well, had no fever and gave no evidence of the ear being painful. About six weeks ago the mother noticed that the left ear seemed to stand out from the side of the head rather more than the other, but she thought little of this as there was no swelling or tenderness about the ear.

About a week or ten days ago, while at a resort in Wisconsin, she became aware that there was a decided swelling behind the left ear, and consulted

a local physician, who thought a mastoid abscess might be developing and advised taking the child home for treatment. All this time the boy seemed to be in perfect health; had no fever, played, ate, and slept as usual and gave not the slightest sign of earache and there had been no discharge from the ear.

When I first saw him the child seemed to be perfectly comfortable and happy, and was playing with his toys. The temperature was normal.

Examination showed the left auricle to be distinctly more prominent than the right. There was a considerable swelling over the left mastoid, more marked in the upper mastoid region and extending forward over the auricle. At this time there was no redness of the skin over the tumor but the parents stated that a few days before the swelling had been somewhat red. They also said that the swelling was smaller than it had been.

There was no tenderness to pressure over the mastoid and no fluctuation. The cervical glands on both sides were palpable. Throat and nose negative. The walls of the auditory canal were normal, but the drum-membrane was concealed by a mass of hard dark wax very adherent to the inner portion of the canal.

This was softened and easily removed by syringing. The tympanic membrane showed no congestion and appeared normal except for a slight bulging in the upper posterior part. An incision made here allowed a mass of thick gelatinous material to protrude. Bleeding was free so that no smear was taken.

Next day the mastoid swelling was perceptibly smaller. There was no discharge from the ear but thick tenacious mucus was seen protruding through the cut in the membrane. A smear was taken and submitted to Dr. Tiedemann of Washington University. He reported a Gram-positive coccus, probably pneumococcus.

The ear improved steadily and in eight days (July 20) was perfectly dry, the incision was healed and the tympanic membrane showed no congestion or bulging.

The post-auricular swelling seemed entirely gone but the auricle was still a little prominent. There had been no pain or fever.

In view of the improved local condition and because it seemed advisable to get the baby out of the heat as soon as possible it was decided to let him go back to Wisconsin the next day. On account of the finding of the pneumococcus, however, the warning was given that the process might be latent and that trouble might develop later. Fortunately Dr. Saunders, the family physician, saw the baby at the station as they were about to take the train. He found that during the night the swelling had returned, and that fluctuation was now plain. The child

* Read at the meeting of the St. Louis Medical Society, Feb. 20, 1915.

was taken to St. Luke's Hospital for operation that afternoon. The temperature on admission was 99 F. by rectum and the little patient seemed as happy as ever.

On making the incision through the spot of fluctuation some thick, colorless, mucoid secretion escaped. The cortex over the antrum was found perforated, the opening being about $\frac{1}{4}$ by $\frac{1}{8}$ inch in its diameters. The mastoid process was unusually large for the patient's age, and its entire interior was full of broken-down tissue and the same mucoid secretion found on incising the swelling, which was similar to that obtained from the tympanum at the time of the paracentesis.

The bone destruction extended well up toward the base of the mastoid, forward over the meatus to the root of the zygoma and inward to the inner cortex, so that when the excavation was completed a very large cavity was left.

Recovery was uneventful and perfect.

CASE 2.—Wm. B., aged 33, coal miner, was referred to me by Dr. E. J. Burch of Duquoin, Ill. He was admitted to St. Luke's Hospital—walking in—on the evening of Nov. 9, 1913, and I saw him, with Dr. Burch, at 9 p. m.

The history was as follows: While never robust he had enjoyed fairly good health, having had no special illness. He had had chronic suppuration of both ears in childhood, and for the last few years there had been an intermittent otorrhea, the ears, however, being dry for months at a time. During the last summer he had not felt quite well but was not incapacitated from work. Early in October (about a month ago) he contracted a severe cold and both ears began to discharge. At first he had some fever, and some pain in and around the right ear—but this soon disappeared. About a week or ten days ago he had a chill followed by fever, and since then he has had them at irregular intervals. With the chill the temperature would rise to 103 or 104 F. and then subside with sweating. This would occur irregularly, sometimes once a day, sometimes twice and at times skipping a day or two. He had had no pain in or about the ears since the beginning and he had never had any headache.

Present condition.—Patient complains of nothing; has no pain anywhere and feels fairly comfortable. Temperature and pulse normal. Aural examination: The right side shows a scanty purulent discharge from the middle ear. There is a large marginal perforation in the upper posterior part of the tympanic membrane. The rest of the membrane thickened and indrawn. No congestion or other indication of active inflammation of the tympanic membrane or tympanum. In short, the ordinary picture of a chronic middle ear suppuration. The left ear shows a similar condition except that the discharge is a little more abundant and a polyp the size of a pea protrudes from the upper back part of the tympanum. The walls of the external auditory canal on either side are perfectly normal. Both mastoid processes appear normal. There is no redness, swelling or tenderness to any pressure over or around either process. Nor is there any tenderness down the neck in the jugular line.

Such a history with chronic middle ear suppuration of course suggested a probable sinus involvement but in the absence of all symptoms pointing to this, except the fever, it was decided to exclude other possible causes of the temperature rise—such as malaria or an irregular typhoid—before accepting this diagnosis as final, and for this purpose the assistance of Dr. Baumgarten was asked.

November 10. During the night patient complained of chilliness and at 3 a. m. the mouth temperature was 104.8 F., subsiding with sweating. At 9 a. m.

it was normal. Physical examination of the chest and abdomen negative. Spleen not enlarged. Urine showed only a trace of albumin and a very few hyalin casts. Leukocyte count 13,400. Malaria plasmodia present. On the strength of this, bisulphate of quinin was ordered. At 4 p. m., twelve hours after the previous high point, the temperature was again 104 F. and at 9 p. m. it had fallen to normal.

November 11, 12, 13, 14. For these four days there was but one rise of temperature in the twenty-four hours instead of two and this came regularly between 7:30 and 8:30 a. m. The reading varied from 104 to 105 F. In the afternoon it would fall to normal or slightly below. Notwithstanding the high morning temperature he enjoyed his breakfasts, had no pain, except once a slight transient one in the right ear, not enough to disturb his sleep, and complained of nothing. Plasmodia no longer found in blood. Skiagram of mastoid revealed nothing.

November 15. Had a comfortable day. No morning elevation and temperature about normal all day; highest 99.6 F. at 8 p. m. Blood culture taken yesterday negative. No bacteremia. Quinin increased.

November 16. There was a gradual rise of temperature from midnight to 5:30 a. m., when it reached 101.8 F. At 8:30 it had fallen to 99.6 F. remaining between that and normal until 9 p. m. when it began to rise again and at 11:30 p. m. was 102.4 F.

November 17. Normal temperature all day.

November 18. Gradual rise in temperature from 2:30 to 7 a. m. when it was 104.6 F. In three hours it had fallen to normal. Quinin discontinued as patient was thoroughly cinchonized, almost deaf and very nervous and as no plasmodia had been found on repeated examinations. The only effect of the very large doses of the drug seemed to have been to hold the temperature to one rise in the twenty-four hours instead of two and to make the elevations more regular. In the afternoon of this day he had a subnormal temperature and slow, weak pulse (96.8 F. and 60) requiring stimulation. No evidence of any cerebral trouble. Leukocyte count 8,000 and polynuclears 80.4 per cent.

November 19, 20, 21. For three days the temperature was fairly constant between 100 and 101 F., only once reaching 102.4 F., and at times normal. Eye examination negative. Leukocyte count 9,600. Urotropin given.

November 22 and 23. Temperature normal or below each forenoon but in the evening 103.6 and 104.6 F.

November 24. No rise in temperature all day. Widal negative. Leukocytes 10,200. Polynuclears 62.4 per cent.

November 25. Afternoon temperature 102.8 F. Enema brought a large stool stained with blood. For the next four days the condition remained about the same, the temperature ranging around 100 F., but there was no more appearance of blood in the stools.

November 30. During the night he had a chill; temperature 104.2 F. Bowel movement showed blood and mucus. Temperature falling all day, reached 96 F. at 11 p. m. Leukocytes 26,600. Polynuclears 90.4 per cent.

December 1. Pus and blood in stool. Subnormal temperature all day. Examination of abdomen by Drs. Mudd and Baumgarten absolutely negative.

December 2. During the night vomited yellow fluid with some dark particles. Still some pus and blood in stool. Morning temperature 105 F., afternoon normal, evening 102.8 F. There has been no change in the aural condition except a slight increase in the discharge from the right ear for the last few days.

December 3. No blood, pus or mucus from bowels. Temperature, however, went to 105 F. and he complained of a slight stiffness in the back of his neck

lasting only a few hours. He had no pain or headache. His general condition had gradually grown worse, and as nothing has been found to account for the sepsis it was decided to operate on the mastoid and sinus. Dr. Buhman reported finding *B. pyocyaneus* in pus taken from ear on December 2.

December 5. Under gas-oxygen anesthesia a radical mastoid on the right side was done as rapidly as possible. The process showed but few cells and contained but little pus. The tegmen was necrotic and above it was an extra-dural abscess. The sinus was then uncovered and was found to be completely thrombosed; its walls black, softened and gangrenous. In removing the bone from over the sinus its softened wall was ruptured and through the small opening a quantity of thin, dark, intensely fetid fluid escaped but there was no bleeding. It was necessary to uncover the sinus rather more than half way to the torcular and well down to the jugular bulb before its walls were found to be anything like normal. The clot was then removed and free bleeding from both ends obtained. The jugular was not ligated. The wound was packed and an open dressing applied. The operation lasted an hour and a half and the patient was returned to bed in bad condition. At one time during the operation artificial respiration became necessary. A few hours after the operation the axillary temperature was only 95.8 F. and the pulse had fallen from 130 to 92. Although convalescence was slow the subsequent history can be briefly told.

On the morning after operation almost complete right facial paralysis was noted. This persisted for several weeks, then grew less and finally disappeared.

His temperature remained subnormal with rapid irregular pulse and bad general condition for a day or two before any improvement was observed. After this it was slow but steady. The outer dressings were changed every day and the first complete removal of the gauze pack was on the fourth day. There was no bleeding from the sinus but there was sloughing over a considerable area of the dural surface. The odor from the dressings was intolerable for at least two weeks. Cultures from the clot and from the sinus wall showed *B. pyocyaneus* and *B. pyogenes foetidus liquifaciens*.

December 16. Eleven days after operation, he complained of chilliness and had a temperature of 103 F. for a few hours, and there was a slight rise the next day. No cause for this was found. No attempt had been made at the time of operation to perform the plastic but on December 27 an attempt was made in this direction with quite satisfactory results. From that date there was nothing to note until Jan. 4, 1914, when he had a sleepless night from pain in the right shoulder and under the scapula. There was no fever and no sign of lung involvement. On the next and succeeding days, however, there was afternoon temperature of 100 F., and on January 7 he began to cough with some expectoration. A specimen of the sputum was returned from the laboratory as positive for tubercular bacillus. The cough and expectoration grew less so rapidly that after five or six days when it was desired to make another test for the bacilli no sputum could be obtained. During this time the left ear had been treated by instillations of alcohol and on January 17 the polyp was removed. Prompt cessation of the discharge followed. His weight January 18 was 100 pounds. He left the hospital February 2 and went home the latter part of March. At this time he had regained his normal weight of 125 pounds and both ears were dry. The mastoid cavity on the right was well lined with epidermis and the posterior wound completely healed. Brain pulsation could be plainly felt through the scar.

A few days ago I received a report that he had had no further trouble, that the ears had remained dry and his general condition was good.

The most striking feature of the first case is its insidiousness. It must have begun at least six weeks before I saw it, when the prominence of the auricle was first noticed, but there was no definite symptom from which to date its commencement. During all this time the disintegrating process in the mastoid was probably going on yet with no disturbance of the general health and causing no pain or fever, and it was only when the suppuration, approaching the outer mastoid cortex, caused the retroauricular swelling that the first sign of any trouble was observed.

After the discovery of the middle ear abscess the diagnosis of mastoid involvement was not difficult, but the absence of fever, of pain (present or past), of tenderness or fluctuation over the swelling and, especially the fact of its having diminished in size, led to the hope that with the establishment of drainage from the tympanum the mastoid condition would subside. This apparently was happening until, with the perforation of the mastoid cortex, there was the sudden reappearance of a fluctuating swelling behind the ear, when of course operation was clearly imperative. Until this time there had been nothing to indicate any extensive necrosis within the bone.

Regarding the second case, in the light of its history as read, it is easy to say that the delay in making a positive diagnosis of sinus thrombosis should not have occurred. Not having this knowledge, however, it seemed wise not to act on our suspicion of this condition before excluding all other possible explanations of the fever.

The finding of the malaria plasmodium and the regularity of the febrile exacerbations strongly suggested malaria. The first day there were two high points of temperature twelve hours apart and for the next four days one elevation which came regularly each morning between 7:30 and 8:30. Then came a few days when the temperature was normal, or nearly so, and we thought the quinin was having some effect. The idea of malaria was given up when the plasmodia were no longer found and the temperature again began to have exacerbations, this time coming in the afternoons. Then came the bowel disturbance with blood and pus in the stools and with high leukocytosis and polynuclear percentage. This disturbance may now be considered as metastatic, but at the time we were unable to explain it or to locate its source. When this condition cleared up and nothing had been found to account for the fever except the ear disease it was decided to explore the sinus. Then came the question which ear to choose. The left ear apparently presented conditions more favorable to pus retention and therefore to involvement of the mastoid and sinus than the right since there was a polyp in the region of the entrance to the antrum.

The choice of the right side was made solely because this ear had had more pain in the beginning than the other, and the little local discomfort he had had while under observation seemed to be rather more on the right side. Fortunately, the choice proved to be the correct one. Had it not it would have been in order to operate on the other side also. It is also very fortunate that no harm came from the delay. It is only just to say, however, that while waiting, the possibility of a thrombosis was kept in mind and we were prepared to operate at any time.

Such cases as this where the clinical signs are so inadequate suggest a consideration of the value to be found in other methods of diagnosis.

The path of infection in sinus thrombosis is usually through the mastoid process. Consequently, evidence that a destructive process existed within the mastoid would, in connection with the septic fever and a high leukocytosis and polynuclear percentage strongly confirm a diagnosis of sinus involvement. Such evidence may sometimes be furnished by the Roentgen-ray plate, and when it speaks positively as to a mastoid empyema or a pathological condition in the region of the sinus its testimony is of value. Certainly a positive Roentgen-ray finding, with the characteristic fever and a high leukocytosis and polynuclear percentage would justify a mastoid operation and investigation of the sinus, when the true condition would probably be discovered. This holds, however, only when the skiagram is clear; an indefinite or hazy picture may be caused by the changes in the bone, such as thickening and obliteration of the cell spaces, due to chronic osteitis so frequently present in cases of chronic middle ear suppuration. Such a finding in the absence of more definite local symptoms does not warrant an operation.

Can any inference be drawn from the bacteriology of the middle ear pus? The organism most frequently found in the middle ear suppuration is the streptococcus. It, especially the streptococcus mucosus or capsulatus, is also the most virulent and the most likely to cause mastoid or other complications. Libman in a series of 141 examinations found this organism 88 times, pneumococcus 8, streptococcus mucosus 10 and staphylococcus 7. In this series were 13 cases of sinus thrombosis, in ten of which the streptococcus was demonstrated while three were negative. (Phillips: Diseases of the Ear, Nose and Throat.)

While the virulence of this organism and its tendency to cause complications must be admitted, the frequency of its occurrence in middle ear suppuration and the fact that so often these infections run their course without these complications developing, give to its finding only a suggestive importance which can be of

real value only in connection with other clinical indications.

The pneumococcus is frequently found in purulent middle ear disease, especially of children, and of it Phillips says: "This form of infection, while not as virulent as the streptococcus, is, on account of its peculiar characteristics, often attended with serious complications. This peculiarity is the tendency for a pneumococcus infection, wherever located, to heal rapidly, but during the local healing process the micro-organisms establish themselves in near by places and set up a new infection. Thus the tympanic cavity may become healed even though the mastoid process is still the seat of the pneumococcus invasion."

The first case reported offers a beautiful illustration of this in the rapid and complete healing of the middle ear abscess and the continued progress of the mastoid infection. The extent of tissue destruction found at operation in this case shows that this organism may at times display decided virulence.

It is recognized that middle ear infection from measles, scarlet fever, diphtheria and especially scarlatino-diphtheria have a more or less decided tendency toward mastoid involvement, but it may be said of these, as of the streptococcus infections, that they create a presumption that has its value only in connection with the other clinical findings.

While the blood count, in conjunction with the general condition of the patient, may speak for a purulent inflammation somewhere in the body; and while the varying leukocytosis and polynuclear percentage may perhaps give some indication of the progress of the infection and the patient's resistance, we can learn from it alone nothing as to the location of the suppuration. Obviously, we must depend on other indications for this, and it is only when these indications point to an extension of a middle ear suppuration that a high polynuclear percentage and leukocyte count become, as McKernon and others think, significant of sinus thrombosis.

It might be supposed that, since otitic sinus thrombosis results from the action of the infecting organisms around or within the walls of the vein, their presence in the general blood-stream, or bacteremia, would be a fairly constant and positive evidence of the condition, especially if the clot had begun to break down.

From an examination for bacteremia in 55 cases of aural suppuration, Duel and Wright (*Trans. Am. Otol. Soc.*, 1909) obtained a positive result in 14. Of these, 4 cases had definite clinical signs of septic sinus thrombosis for which operation on the sinus and jugular vein was performed; one had acute suppurative labyrinthitis and acute diffuse leptomeningitis; one acute purulent otitis without mastoid involvement, while the others were uncomplicated

cases of mastoiditis. The streptococcus was found in all but two of these cases; in these two pneumococcus was present. One of the two was a case of acute mastoiditis, the other of chronic purulent otitis media with polypi for which a radical mastoid operation was done.

It appears, therefore, that a bacteremia may occur in other ear suppurations as well as in purulent sinusitis, and the conclusion of these authors is "that a bacteremia occurring in the course of a purulent otitis by no means can be considered sufficient cause for invasion of the sinus in the absence of other definite symptoms."

Furthermore, the value of bacteremia as an evidence of sinus thrombosis, when clinical indications are wanting or insufficient, is lessened by the fact that it is often present in septic endocarditis, and may occur in pneumonia, purulent meningitis or the septic type of scarlet fever. It may be found in some affections of the tonsils or even, as stated by McKernon from his own experience, from an infection of the jaw. (Kerrison: *Dis. of the Ear*, p. 349; McKernon: *Trans. Am. Otol. Soc.*, 1909, p. 379.)

It is worthy of note that in cases of demonstrated sinus thrombosis where bacteremia existed the organism found almost uniformly has been the streptococcus.

The correct conclusion seems to be that the finding of streptococcus in the blood should not be given too much weight as evidence of purulent sinus thrombosis in the absence of definite clinical symptoms referable to the ear, unless all other possible sources of blood infection can be excluded.

It appears, therefore, that all these aids to the diagnosis are of value only in connection with the local symptoms, and that while they may point to the existence of septic inflammation they are by themselves no guide as to its location, and that in cases such as the one reported when the aural findings were negative as to the thrombosis or at most sufficient only to suggest its possible presence, they should not weigh too heavily in the diagnosis until all other possible sources of infection have been excluded. When, however, these have been excluded and the septic condition of the patient continues or increases, the apparently insufficient aural symptoms should not stand in the way of operative procedures on the mastoid or sinus.

It follows that in all cases of fever, other than transient, whether septic or not, which a thorough general examination fails to explain, a careful aural examination should be made. Many times even when there is little or no complaint of the ear, conditions will be found there on which the general systemic disturbance depends.

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OTITIC BRAIN ABSCESS*

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Otitic brain abscesses do not occur as infrequently as ordinarily supposed. So far as I am aware, no one has revised the old statistics of Pitt, who found eighteen cases of otitic brain abscess among nine thousand autopsy reports at Guy's Hospital. His figures would indicate that these cases are comparatively rare. It is a well-known fact that a large number of cases of chronic middle ear suppuration are overlooked or neglected, and nothing is ever heard of the final outcome; hence it is very difficult to determine the frequency of these abscess cases.

Brain abscesses of otitic origin are the result of an invasion of the brain substance by an infection from the middle ear spaces, the primary point of infection usually being a perforation of the mastoid or tympanic walls, by necrosis; or there may be no demonstrable macroscopic connection with the infection in the middle ear or mastoid. In the latter, the inflammation may be caused by phlebitis and the formation of thrombi in the veins entering the cranial cavity from the ear; or the migration of micro-organisms may take place along the anastomotic lymph-vessels of the middle ear and cranial contents.

Brain abscesses may be acute or chronic. Acute cases are rare, whereas chronic brain abscesses occur much more frequently. According to Blake and Reik, more than 50 per cent. of all brain abscesses of whatever origin are due to a chronic suppurative otitis media. The locality most frequently infected is the temporo-sphenoidal lobe, the infection taking place through the tegmen of the tympanum or antrum. The next most frequent site is in the cerebellum, the route of infection being through the posterior and superior surfaces of the petrous pyramid. According to Alexander, 80 per cent. of the cases of otitic cerebellar abscess are due to a suppurative labyrinthitis. These abscesses are usually located near the internal auditory meatus.

The number and size of brain abscesses vary greatly. There may be a number of small abscesses communicating, or they may be isolated. At times they become very large. Politzer states that they may be as large as a goose's egg. In the chronic cases the walls may become indurated and change to cicatricial tissue. Cases have been reported where the abscess wall was 5 mm. in thickness.

Brain abscesses are not common in infancy and old age, but are most common in the sec-

* Read at the meeting of the St. Louis Medical Society, Feb. 20, 1915.

ond and third decades. The pathogenic organisms are usually the streptococcus, or staphylococcus, and infrequently Fraenkel's pneumococcus.

The symptoms of brain abscess are classified by MacEwen into three stages. In the first or initial stage the symptoms consist of some rise of temperature, moderate or severe headache and vomiting. These symptoms are usually of short duration and may not arouse any suspicion of an intracranial infection. In the second or latent stage the patient may attend his usual occupation and may have only a moderate headache. This condition may last for months without other symptoms appearing. During the third or manifest stage, two groups of symptoms may appear: first, general symptoms which pertain to septic absorption; second, those which are the result of intracranial pressure.

In the chronic cases large abscesses may form without producing any symptoms other than a slight headache. Restlessness and sleeplessness may be common symptoms. The temperature may be high at the beginning and later become normal or even subnormal. The pulse at the beginning may be rapid, and later, as the intracranial pressure increases, it becomes slow, 50 to 60 per minute. Constipation and loss of appetite are the rule. Eye symptoms occur only in a small percentage of the cases. Percussion of the skull over the abscess site may increase the pain or elicit marked tenderness. The difference in the percussion note of the affected side has no value, according to Oppenheim. Localizing symptoms may occur, such as a sensory aphasia, when the abscess is located in the temporosphenoidal lobe on the left side, or a paralysis of the motor oculi may take place. The motor fibers of the internal capsule may be involved, giving rise to paresis of the leg, arm and face. Focal symptoms, however, are usually absent. In cerebellar abscess, signs of marked intracranial pressure may occur. The headache is usually more marked and the vomiting persists.

The diagnosis of a brain abscess is very difficult. A number of cases have been reported in which a cerebral abscess was found during the performance of a radical mastoid, when an intracranial complication was not even suspected. A persistent headache, with a slow pulse and vomiting, occurring during the course of a suppurative otitis media, is sufficient evidence to justify an exploration. According to Von Bergman, a history of middle ear disease together with persistent sleeplessness, with a temperature at about 99 F., are sufficient indications for opening the cranial cavity for the purpose of exploration.

The prognosis of an otitic brain abscess is good, provided drainage is secured before serious damage is done, and a good result may be expected in a considerable number of cases. MacEwen reports eighteen recoveries in nineteen cases operated on by himself. Koerner collected 267 cases with recoveries in over 50 per cent. If left to itself, death occurs by rupture of the abscess into the ventricles or into the subdural spaces, resulting in a general meningitis. The treatment of an otitic brain abscess is essentially surgical. An abscess in the temporosphenoidal lobe may be opened and drained through two routes: first, through the mastoid, that is, through the tegmen of the tympanum or antrum; or second, through an opening in the squamous portion of the temporal bone, just above the auricle. The route through the mastoid is the one most often employed by ear surgeons; it has the advantage of not only following the infection from its source, but as the abscess is usually situated just above the tegmen, it gives drainage at its deepest part. The branches of the middle meningeal are also avoided. If a mastoid operation has been previously performed the wound is cleansed and freshened; the tegmen of the antrum and middle ear are removed by means of a chisel and a suitable rongeur forceps. The dura should be as fully exposed as the local conditions will permit, giving ample space for exploring the temporosphenoidal region. The dura may show a discoloration or may even be covered by granulations. Brain pulsation may also be absent. In a number of instances an opening into the dura leading into the abscess cavity has been found. The presence of brain pulsation and the absence of the discoloration of the dura does not prove that an abscess is not present, since the abscess may be so deeply situated that the intervening brain substance is not necessarily affected. In opening an abscess, a dural flap may be turned up, or the brain may be incised through the dura without making a flap. An ordinary narrow-bladed knife, or better still, the knife of von Preising, may be introduced into the brain substance for a distance of an inch or more. Should the abscess not be located, several incisions may be made in different directions. Koerner states that a depth of 4 cm. should never be exceeded, while Heine considers a depth of 7 cm. still within the limits of safety. When the abscess is located, the incision should be sufficiently enlarged to permit free drainage; rubber tubes may be inserted or rubber tissue drains may be employed. In my experience, rubber tubes have proved the most satisfactory. The wound should be dressed daily. MacEwen recommends

that in some acute cases only an outer gauze pad be used, and if no pain or rise of temperature occurs, this should not be disturbed for three weeks. A cerebellar abscess may be opened and drained through the mastoid by entering the posterior cranial fossa in front of the lateral sinus and posterior to the semicircular canal; or through the sinus wall itself when the sinus has been opened; or an opening may be made in the skull just behind and below the lateral sinus. The same method is then followed as when dealing with a cerebral abscess.

In conclusion, I wish to report the following cases.

CASE 1.—*Personal History.*—Female, 19 years of age, was seen for the first time on Jan. 15, 1913, and the following history was obtained. Six weeks previously, she was suddenly seized with a pain in the left ear; she consulted an aurist who incised the drum, after which the pain subsided and a profuse discharge from the ear followed. She was treated at the office of a physician, and continued her work as a teacher until three days ago; then she was compelled to go to bed, owing to an intense headache, which had been gradually increasing in intensity for a week or more. The patient had been unable to sleep for the past forty-eight hours and had taken practically no nourishment during that time.

Examination.—The patient was lying in bed moaning and crying with pain, which she localized over the left eye and radiating over the head; she presented the picture of intense suffering. Examination of the ear revealed a slight purulent discharge, with a perforation in the upper posterior quadrant of the drum membrane. There was no sinking of the upper posterior canal wall; no evidence of swelling, and only a slight tenderness on pressure over the mastoid. The knee reflexes were exaggerated and Kernig's sign was slightly positive. Babinski and Chaddock signs were negative; temperature 101 F., pulse 88. Suspecting an intracranial involvement, I had the patient sent to the hospital, and operated on her the same day. The mastoid was opened and found filled with pus. The tegmen antri was removed, the dura was exposed over a considerable area, but no evidence of an intracranial complication was found. The brain pulsation was normal and no discoloration of the dura was visible. The wound was then drained in the usual way. The following day the patient felt some better, but she still complained of pain over the left eye; the region of the frontal sinus was painful on pressure. The nose was examined repeatedly, but no evidence of any frontal sinus involvement was found. Dr. Alt made an ophthalmoscopic examination and reported a slight congestion of the disk on that side. Two days later he examined the eye again, and found that the swelling had practically disappeared. A blood count was made and showed a leukocytosis of 14,400. The patient did fairly well for several days; the temperature came down and ranged between 98.2 and 98.8 F. The pulse became slower and on January 24 was down to 60. The pain over the eye and left temple became more severe and she had several attacks of vomiting. Dr. Bliss had been studying the case with me. He concluded that the patient had a brain abscess. There were no localizing symptoms to guide us as to its possible location; we therefore decided to make an exploration. The patient was again sent to the operat-

ing room. The mastoid wound was reopened, and the dura over the tegmen antri which had been exposed at the previous operation, was further exposed and carefully examined for a sinus, but none was found. A von Preising knife was then introduced through the dura into the temporosphenoid lobe, for a distance of an inch, when a tablespoonful of pus was evacuated. The opening of the dura was enlarged, two rubber drainage tubes were inserted into the abscess cavity which was gently irrigated with a normal saline solution. The tubes were secured by pinning them to the skin. The abscess cavity gradually filled in, and the patient left the hospital on April 9; two weeks later the mastoid wound had entirely closed. The hearing is normal, and the patient resumed her occupation after a few months' rest.

CASE 2.—*Personal History.*—Male, 35 years of age, bookkeeper; has had a bilateral middle ear suppuration since childhood. I saw the patient for the first time on March 17, 1913, and learned that he had been suffering with pain on the right side of his face and right ear for about a week. The case had been diagnosed by the family physician as a facial neuralgia. For the previous three days he had been dizzy. He noticed that the dizziness came on when he attempted to look to the left. The examination of the patient revealed a right-sided facial paralysis with a distinct spontaneous nystagmus when the eyes were turned to the left. Examination of the ears revealed a total destruction of both drum membranes, with a slight purulent discharge. He was able to hear a loud whisper in the left ear for a distance of three feet; in the right ear he could detect loud noises only. A diagnosis of a facial paralysis with a fistula in the semicircular canal was made. A radical mastoid operation was proposed; the patient went to the hospital and was operated on the following morning. The mastoid cavity was filled with a large cholesteatoma. The fistulous opening was found in the horizontal semicircular canal. The fistula was not disturbed; the plastic was made and the wound treated in the usual way. The patient did very well until March 22, when he had a chill which lasted twenty minutes, followed by a temperature of 102 F. The following day he had another chill with temperature of 103 F., pulse 110; this was followed by a profuse sweat. A diagnosis of a sinus thrombosis was made and the patient was sent to the operating room and the wound reopened. The lateral sinus was fully exposed and opened; the thrombus was found and removed; free bleeding followed. The sinus was packed with iodoform gauze and the wound dressed in the usual way; the jugular vein was not ligated. The temperature came down and remained between 97 and 99 F., and the pulse between 80 and 100. The general condition of the patient did not improve. He never complained of pain or headache; there was some stiffness of the neck but no marked rigidity. He had no appetite and slept a great deal; the patient gradually lost ground. On April 7 there was some difficulty in swallowing, and he lapsed into a semi-comatose condition. The eye grounds had been examined repeatedly, but nothing abnormal was found. Dr. Bliss had also seen this case a number of times, but up to this time we did not feel warranted in operating the third time. While there was nothing to lead us to a positive diagnosis of a brain abscess, we decided to make an exploration. The patient was again sent to the operating room, and the mastoid wound reopened. The dura over the tegmen tympani was fully exposed. Several incisions were made into the temporosphenoid lobe, but no pus was found. The posterior fossa was then opened and an incision made into the cerebellum; a large amount of foul smelling pus was evacuated. The

cavity was gently irrigated and rubber drainage tubes inserted. The patient developed a small brain hernia and a portion of the cerebellum sloughed off. The abscess cavity gradually filled in, and the patient left the hospital on May 16. The right ear is now totally deaf; the turning and caloric reactions are negative. The facial paralysis has improved, but is still quite evident.

CASE 3.—*Personal History.*—A child, 18 months old, was operated on for an acute mastoid trouble at the Mullanphy Clinic, in June, 1910. Six months later the child was brought to the clinic for symptoms of extreme restlessness, vomiting, diarrhea and fever. The temperature was 103 F., pulse hard to obtain. The vomiting was distinctly projectile. These symptoms, under diet and appropriate treatment, subsided. A von Pirquet test was negative, but about twenty-four hours after the vaccination, the mastoid scar reddened and the immediate vicinity looked somewhat edematous, so that it was thought possible, in view of the night cries and now lower temperature, that there might be a tubercular basis for the symptoms. A blood count, however, showed a leukocytosis of 18,000. An internist was consulted and a diagnosis of central pneumonia was made by him. The extreme restlessness and irritability persisting, Dr. Calhoun was asked to examine the eye grounds. He reported that there was a retinitis on the side of the former mastoid involvement. We then determined to explore for an intracranial complication. The mastoid was reopened and the dura over the tegmen antri was fully exposed. A small extradural abscess was found. At one point there was an area of granulations with a small opening into the dura, through which pus was discharging; this opening was enlarged and approximately a tablespoonful of pus was evacuated. We attempted to drain the cavity by inserting cigarette drains, but this was found impracticable; we then substituted rubber tubes. The patient was exceedingly difficult to handle; the drains were constantly forced out of the cavity. The temperature continued high with a slow pulse rate; temperature 105 F., pulse 128. The patient died on December 27. No post mortem.

CASE 4.—*Personal History.*—Male, 36 years of age, was seen by Dr. Bliss on June 8, 1911. He found the patient in a semiconscious condition which had existed for several days. The history of a chronic discharging ear was obtained, though there had been no discharge for some time. Dr. Bliss made a diagnosis of a probable brain abscess, and sent the patient to the Mullanphy Hospital. I saw the patient the following morning; he was in a stuporous condition and could not be aroused; his temperature was 98.8 F., pulse 44, respiration 22. Examination of the left ear showed nothing abnormal; the right ear showed a total destruction of the drum membrane, but the ear was perfectly dry with no evidence of any mastoid involvement. The patient remained in this semiconscious condition until June 13, when there was a copious discharge from the right ear. The patient cleared up and stated he had no pain; his pulse, which had been as low as 38, was now 58. The amount of pus discharged from the ear was out of all proportion to the capacity of the middle ear spaces. We decided to operate at once; the mastoid was opened and found to be filled with a large cholesteatoma; this was removed and the dura over the tegmen tympani was found to be exposed, and revealed a sinus in the dura through which pus was discharging. This opening was enlarged and pus to the amount of at least two tablespoonfuls was evacuated. The cavity was drained by inserting two rubber tubes. Three weeks later the patient left the hospital.

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FUNCTIONAL TESTING IN EAR DISEASE*

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In the majority of cases of ear disease physical examinations will tell the examiner the amount and nature of the pathologic changes in the conducting portion of the ear, but he will be unable to state with any degree of accuracy the effect such changes have had upon the auditory apparatus. The purpose, then, of functional testing of the ear is to determine the extent of deafness and to learn whether or not the lesion indicated by the particular complaint is in the conducting or the receiving apparatus of the ear. Frequently it is also necessary to test the function of the static labyrinth in order to localize disturbances of equilibrium and sudden deafness.

I shall consider first the functional tests of the auditory apparatus, i. e., the conducting portion or middle ear, and the perceiving portion, the cochlea. The most useful of the tests are made with the voice, the whisper, the acumeter of Politzer, and the tuning forks.

Since most individuals who complain of ear trouble complain of inability to hear spoken speech it seems to me, though the view is condemned by some observers, that the voice is the most important of all functional tests, because with the improvement or lack of improvement in the patient's perception of the voice will your treatment be judged.

The method of testing by the voice is simple. A moistened finger tip is placed in the ear *not* to be tested while the other ear is turned toward the examiner, certain words are pronounced in the tone of ordinary conversation and the distance increased until the patient's limit of correct repetition is found. Under ideal conditions of perfect hearing and perfect quiet the normal limit for conversation is about 100 feet; practically, the distance is much less and even the slightest defect in hearing will shorten it greatly. Things to be remembered in testing with the voice are that the letters A, E, I, S, F, R, and T have high tone qualities and may be heard farther than O, U, M, N, H, B and L, which have low tone qualities; therefore mixed words should be used in making the examination. It is permissible for psychological effect to use the high tone words after treatment.

Lucia Dennert has shown that it is possible for the good ear to hear conversation speech, even when it is stopped by the finger, at a distance of 9 feet, so that the other ear must be ruled out for a distance less than this. With the noise apparatus—Barany's being the most

* Read before the Jackson County Medical Society, Nov. 17, 1914.

practical—the other ear may be excluded. Another method of ruling out the good ear is to speak through a 10 foot tube; a patient can hear better through a tube, but if he does hear conversation speech at 10 feet it proves conclusively that he could hear it with the ear being examined when the lips are against the meatus. Particularly in the examination of children is the voice of value, because, while they often report hearing the acumeter or tuning fork at impossible distances, they will, if tact is used in making the examination repeat well known words.

The question of the relation of the whisper to the spoken voice is a much disputed one. While I do not condemn the whisper as a method of testing, few accurate conclusions can be drawn from the relation of whisper to voice because of the difference in the quality of the sounds. The method of testing by whisper is the same as that of the voice. The distances, roughly speaking, are about one-half of those of conversation, and the same methods of ruling out the other ear are necessary for accurate observation in making the tests. In small rooms the approximate distance from the patient can be lengthened about one-half by turning the back to the patient; thus in a 10-foot room a range of 15 feet may be secured. This observation was made by Dr. Alexander after a long series of careful experiments and is quite accurate.

The acumeter of Politzer is an instrument devised to replace the watch, particularly in cases of the very deaf. It is so constructed that it always produces the same sound. It is of particular value in that it gives data from various observers which may be used as a basis for comparison that voice, whisper and watch could not offer, all watches, voices and whispers being different. The only precaution in its use is that the patient should not watch the instrument. The instrument should be tested by the observer and his hearing distance taken as the normal.

Tuning forks: The power of the human ear for the perception of sound is presumed to be between 16 and 50,000 vibrations per second but as a rule a vibration rate under 24 and over 15,000 per second is not perceived and for ordinary purposes the forks, C 1, of 128 vibrations, C 2, of 512 vibrations, and C 4, of 2,048 vibrations per second will give all the information of practical value. Tuning fork tests are valuable for showing a diminished time of hearing; for both air and bone conduction; for showing discrepancies between the normal relation of air and bone conduction, and for enabling the observer to differentiate between middle ear and cochlear lesions. The most valuable of the tests are the Rinne, the Schwaback, and perhaps the Weber.

The Rinne test: This is a comparison of the patient's air conduction with his bone conduc-

tion, best done by the C 2 fork, where the air conduction is normally twice as long as that of the bone. Four results are possible: (1) Air conduction twice as long as the bone the normal positive (+) Rinne; (2) both air and bone conduction short but air conduction longer, the short positive (+) Rinne of a labyrinth affection (patient not deaf); (3) air conduction shorter than bone conduction, the negative (—) Rinne of a middle ear trouble; (4) air conduction not heard, bone conduction very short, the imaginary negative Rinne of complete deafness on the side examined.

In making the Rinne tests hold the handle of the fork against the antrum and warn the patient against tactile sensations. Try also removing the fork for a second and replacing it. If heard again the second test is the true bone conduction. In hysteria and neurasthenia there may be several such stoppings. The last time the fork is heard is the true bone conduction.

The Schwaback test: A comparison of the patient's air and bone conduction with the observer's. The examiner should know his own normal for the forks used and base his data of shortening or lengthening on that normal. It is difficult to make accurately and depends somewhat upon whether or not the doctor's or patient's ear is examined first. To be of value it is necessary that the Rinne or Weber test agree with it.

The Weber test consists in placing the handle of the fork on the cranium. In general the sound lateralizes to the diseased side with a middle ear trouble and to the good ear with a labyrinth affection. The test is not of great value as it lateralizes always to the side of the diploetic bone and may lateralize with nasal septal deviations. Hence if Rinne and Schwaback agree disregard the Weber should it not be in accord.

It is difficult to rule out the good ear in examination with the high forks because the perception is through the bone. A technic for such examination is to have the patient place the fingers in both ears, sound the fork, and hold it over the mid-line of the cranium; when the sound is no longer heard, remove the finger from the bad ear and place the fork beside it; if it is then heard it is surely by the bad ear. Remember that the low tone loss is not always due to a middle ear affection, that in primary labyrinth affection any tone may be lost, but that in general, low tone loss speaks for middle ear lesion, as high tone loss does for labyrinth affection. Remember also that there is no severe middle ear lesion without damage to the cochlea.

Another fork of great value is the small A fork of Edelman which includes the tones B to G 2—the "speaking distance." A patient who hears this fork (which is not perceived by

the other side) is not completely deaf. Mutes who hear it may be taught to speak.

The common tests of the static labyrinth, semicircular canals, utricle and saccule are the caloric, the turning and the galvanic, all based upon the production of motion of the endolymph. Of these the most practical is the caloric test; first, because one ear can be tested, and second, because it is at every man's hand. It consists simply of syringing the ear with cold water until the activity or lack of irritability of the labyrinth is established by the production of nystagmus, or lack of it.

Turning test consists of turning the patient in a revolving chair in a certain direction and observing the phenomena. It is of less value than the caloric test because both labyrinths are affected and because of the necessity of special apparatus. The galvanic test produces irritation by cathode, and lessened irritability by anode. It is seldom used because stimulation of the vestibular branch is possible even in complete destruction of the labyrinth. With the caloric test the result in a normal labyrinth is, with head erect, a horizontal and rotatory nystagmus to the opposite side. With the turning test the nystagmus varies with the position of the head but with the head erect the result is a nystagmus, horizontal and opposite to the direction of turning.

These tests are valuable in the diagnosis of intracranial lesions and a free discussion of them would more properly come under the consideration of intracranial complications which is not the purpose of this paper. So also with the pointing reactions of Baranay. In the discussion of the paper Dr. Beck's belief that a very short bone conduction with normal hearing speaks for lues was brought out. The fact that any disease or lesion causing pressure in the posterior fossa gives the same short bone conduction makes the symptoms not so important in the diagnosis of lues as it at first seemed.

Rialto Building.

SURGICAL LESIONS AS ETIOLOGICAL FACTORS IN GASTRIC SYMPTOMS*

CARROLL SMITH, M.D.
ST. LOUIS

The term "indigestion" as a name for a disease should be eliminated from our medical vocabulary. Indigestion is only a symptom which may have numerous underlying causes either in the stomach or apart from this viscus and acting reflexly on it. We may regard the stomach as the watch-dog of the abdomen, since

some disturbance of its function generally gives the first warning of abdominal trouble; in fact gastric symptoms may give the first indication of disease of any of the vital organs. Especially is this true of the gastro-intestinal tract any lesion of which may manifest itself first by gastric symptoms. While it is true that stomach symptoms may often be due to purely local conditions which are amenable to hygienic, dietetic and medical treatment, nevertheless I believe that the majority of cases with stomach symptoms which do not respond to such therapy within a reasonable time have some definite pathological lesion as a cause which frequently requires surgical intervention to produce a cure.

Any case presenting stomach symptoms requires most thorough study to arrive at a correct diagnosis. A careful history and general physical examination with functional examination of the stomach, and the chemical examination of its contents, feces, blood, urine and other special examinations are generally necessary to properly discover the primary cause of the symptoms. It is surprising how many cases which come to operation for gastric or duodenal ulcer, chronic appendicitis or gall-bladder disease have never been thoroughly examined, although treated in many cases by numerous physicians with medicine for supposed stomach troubles over long periods of time.

Now it is not my intention to go into the minute differential diagnosis of all lesions which may be the cause of stomach symptoms, but I only wish to recall some of the more frequent conditions which should be considered in studying such cases. The most common local lesions in the stomach which require surgical intervention are ulcer and carcinoma and their complications. The diagnosis of ulcer of the stomach is often difficult. A patient with pain and local tenderness in the epigastrium with the pain occurring soon after eating, gaseous attacks, vomiting, hyperacidity and visible or occult blood in the vomitus or feces should suggest ulcer of the stomach. When such symptoms do not respond to careful medical treatment, or recur after an apparent cure by such treatment, surgical intervention should be considered. A posterior gastrojejunostomy with excision of the ulcer in some cases, usually relieves the condition.

According to different authors, from 10 to 75 per cent. of the cases of cancer of the stomach are preceded by gastric ulcer. No doubt the percentage is large. The early diagnosis of carcinoma of this organ, which offers the only hope for a cure, is difficult. Few cases are curable when the diagnosis is made by a palpable tumor. The time to cure cancer of the stomach is either in the precancerous stage, i. e., ulcer, or in the early stages of the cancer while the growth is yet

* Read before the Linton District Medical Society, Mexico, Mo., Nov. 19, 1914.

local. Early complete removal by an operation is the only way to cure cancer of the stomach. Unfortunately most cases reach the surgeon when all hope for a cure has passed. Chronic stomach trouble occurring beyond midlife, either coming on suddenly or after a long ulcer history, which may present such symptoms as aching epigastric pain, vomiting after eating, loss of appetite, anemia, failure of nutrition, blood or Oppler-Boas bacilli in the vomitus, should always arouse suspicion of cancer of the stomach; it is therefore the duty of the physician by careful study and examination to diagnose the condition before a possible cancer extends beyond the limits which can be included in a radical operation. In cases where all diagnostic methods fail to fix the exact nature of the trouble an exploratory laparotomy is justifiable and advisable, for most of the cases of early carcinoma of the stomach can be absolutely diagnosed only by direct inspection. When the abdominal cavity is opened the surgeon should be prepared to deal with any condition found. Even if a carcinoma cannot be removed by partial gastrectomy, a palliative gastrojejunostomy may relieve a present or impending pyloric stenosis thereby prolonging the patient's life and comfort.

Reflex conditions most commonly affecting the stomach are habitus enteroptoticus, gall-bladder disease, chronic appendicitis and duodenal ulcer. Myer¹ found that from 50 to 75 per cent. of his patients complaining of dyspepsia had no primary gastric lesion. In these reflex conditions the local symptoms at the real site of the trouble may be slight or absent and the gastric reflex symptoms marked. In other instances the patient may give a history of an earlier acute disease in some viscus which may have subsided leaving a chronic condition which presents no symptoms locally, but causes a chronic dyspepsia. With these reflex gastric symptoms the local stomach findings are usually normal, but this is not an infallible rule. Appendicitis, for instance, may cause a high acidity of the stomach contents and may be accompanied by gastric hemorrhage.

Habitus enteroptoticus (Stiller) is a condition which is a most frequent cause of gastric disturbances. We are prone to attribute the symptoms accompanying this condition to neurasthenia or hysteria and the symptom-complex is frequently referred to as "nervous dyspepsia." In addition to ptosis of the abdominal viscera, these patients present an acute costal angle, movable tenth ribs, a long slender thorax, and a flabby abdominal wall. Tender areas are often found in the epigastric and iliac regions over the sympathetic plexuses. Such conditions are difficult to treat successfully, either medically or surgically.

However, when all attempts by medical means fail, some well selected cases may be benefited by surgical procedures. Gastropexy, according to Rovsing's method, i. e., sewing a broad surface of the anterior wall of the stomach to the anterior abdominal wall; or the operation of Coffey—sewing the great omentum to the anterior abdominal wall so as to support the stomach by a hammock-like fixation—and the removal of any diseased condition found may benefit the patient or place the patient in a condition where further medical treatment may be of avail. Rovsing and Coffey claim a fair percentage of beneficial operations, especially where the patients have been placed on a suitable dietetic, hygienic and medical treatment after the operation.

Appendicitis is a frequent source of gastric symptoms. The term "appendix dyspepsia" has been coined for these conditions. Many such cases have been treated for years for stomach trouble and no one has ever palpated the right iliac region. Lockwood² found that 12 per cent. of his early supposed gastric ulcers were cured by the removal of a diseased appendix. Such cases often give a history of a sensation of fullness and distress in the epigastrium extending over a period of years. So-called bilious attacks, persistent nausea, attacks of vomiting, gastric flatulency after eating, attacks of epigastric pain or pylorospasm may be the result of chronic appendicitis. These conditions are often diagnosed hysteria, neurasthenia, nervous dyspepsia or gastralgia. Tenderness over McBurney's point, or a condition in which pressure over the appendix causes no local tenderness but produces pain radiating to the epigastrium, or nausea and epigastric discomfort, with a positive Meltzer's sign, should put one on his guard. Repeated examinations at different times may be required to elicit these symptoms. Tenderness over a diseased appendix may be made more evident by inflating the colon with air (Bastedo's sign). A careful history will sometimes discover previous attacks but it is well to remember that a chronic appendicitis may never have been preceded by any acute symptoms, or the acute stage may have been early in childhood, hence forgotten by the patient. In some cases a rectal or vaginal examination may elicit pain and infiltration about the appendix region. A careful examination of the stomach may eliminate local disease of this organ and help to localize the real source of the symptoms.

Gall-bladder disease frequently causes a chronic indigestion of an obscure nature for years. Moreover chronic indigestion is the most common symptom of gall-stones. Jaundice is found in about only 14 per cent. of gall-stone cases (Murphy) at any time and colic does not occur in the majority of cases. Cholecystitis

1. Interstate Med. Jour., 1910, xvii, 576.

2. Lockwood, Diseases of the Stomach, 1913, p. 116.

without stones may also cause gastric symptoms. By careful examination the diagnosis should be made in the majority of cases. Tenderness is usually found over the gall-bladder if the finger is pushed well under the ribs and the patient is told to take a deep breath. If tender the patient usually catches his breath suddenly. A sudden deep palpation over the gall-bladder will usually detect tenderness if present; in addition there may be pain in the right subscapular region, less often in the left. These symptoms with nausea and vomiting, pylorospasm or gastric spasm, hyperacidity, achylia gastrica with pain, gaseous distention and sometimes colic or jaundice, are always suggestive of gall-bladder disease. Cholecystostomy or cholecystectomy usually relieves the symptoms. It is well to remember in this connection that carcinoma of the gall-bladder is usually preceded by gall-stones, which fact emphasizes the importance of diagnosing and removing them early.

Duodenal ulcer, formerly considered very rare, has been shown by Moynihan to be a common condition even more frequent than gastric ulcer. Such cases usually give a history of dyspepsia as far back as the patient can remember. The symptoms recur in definite attacks and are specially liable to occur in cold, wet seasons. These patients have a sense of weight and distention in the epigastrium coming on from two to four hours after eating. At the same time they have pain, which is relieved by taking food, hence called "hunger pain." This pain often awakens the patient about two o'clock in the morning and is at once relieved by taking food. Vomiting is rare unless stenosis is present. About the only subjective sign is a tender area in the right side of the epigastrium hence the history is important in making a diagnosis. These conditions are often called cases of hyperchlorhydria but on examination the amount of hydrochloric acid is usually found within normal limits. Sometimes the ulcerative symptoms may be latent and the first symptom to appear is repeated and copious vomiting due to an obstruction near the pylorus. A posterior gastrojejunostomy with excision or infolding of the ulcer generally cures.

In addition to the above mentioned conditions, stomach symptoms may be due to uterine or ovarian troubles in which case a vaginal examination will clear up the diagnosis. Nephrolithiasis, lesions of the small or large intestine, epigastric hernias and brain tumors may manifest their presence by early marked gastric symptoms. It is well to keep in mind that the symptoms in some cases may be caused by more than one lesion. For example, gall-stones and appendicitis are rather frequently found in the same individual. Furthermore, Rosenau has recently suggested that chronic appendicitis may

be an etiological factor in gastric ulcer. When operating on a patient presenting such symptoms as have been described an exploration of all the abdominal and pelvic viscera should be made unless there is some contraindication to such a procedure. One should not be led to operate in stomach symptoms due to pulmonary tuberculosis, heart lesions, lues, chronic lead poisoning, gastric crisis in tabes dorsalis, or arteriosclerosis.

If the above facts are kept in mind when dealing with patients presenting stomach symptoms, and if the physician and surgeon co-operate in handling many of these cases, I am sure we shall benefit and cure more of our patients with so-called stomach troubles.

306 Humboldt Building.

CHRONIC FOCAL INFECTION OF THE NOSE, THROAT AND EAR AS A CAUSE OF GENERAL INFECTION*

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Your attention is called to this subject, not because you are not familiar with it, but because it is so often overlooked when we are making our diagnosis. It may seem like presumption on my part to present to this society a paper on this subject on which so much has been written recently. If, however, what I have to say will cause us to be more careful in our diagnosis of the etiology of disease, and perhaps prevent some child from going through a short life with a damaged heart or kidney, or can curtail the many swollen joints and the intense pain which accompanies them, we have in a measure fulfilled our mission.

Chronic focal infection may be located anywhere in the body, but there are certain anatomical structures which are more frequently affected. They are the structures which possess pockets and which communicate with the external world. There are others that do not have these characteristics and still may be the seat of focal infection with the whole train of symptoms of chronic toxemia. However, it is not my province to enter into any of these points of infection.

The most common factor in undermining the health are chronic diseases and chronic focal infection. Particularly, infection with pyogenic organisms. These reduce the vitality and resistance to acute or intercurrent diseases. It is plain, therefore, that chronic focal infection must be gotten rid of or completely eradicated in order to obtain a cure or to prevent the occur-

* Read at the Meeting of the Jackson County Medical Society, Feb. 2, 1915.

rence of acute diseases. The principal organisms that are most frequently concerned in chronic infection are mixtures of the following: Streptococci, staphylococci, pneumococci, Friedlaender, influenza, Klebs-Loeffler, Vincents, *B. coli communis* and *B. tuberculosis*. There may be a variety of organisms in one or more places at the same time; for example, there may be a focal infection of streptococcus in the tonsils, a pneumococcus infection in the gall-bladder and a *B. coli* infection in the appendix.

The toxins are of the same deleterious action, no matter from what organism they emanate, and are a protein poison.

Since all animal life depends on some other form of cell life, vegetable or animal, it seems but the part of all life to carry on this process of germination development and maturity. It is only the resistance of healthy cells that prevent the inroads of the myriads of ever present bacteria and animal parasites which are striving to get a foothold that they may in turn carry on their life work. Disease, then, is an inflammatory process from infection and the efforts of repair.

According to Billings, systemic disease due to a focal infection anywhere is probably always hematogenous. A comparatively small number of infections occur through wounds of the cutaneous surface. Many of these affecting the special organs are incurred through direct or indirect contact, as those of the eye and genito-urinary system. They may make most serious inroads on the general health. Others by continuity of tissue, as infection of the tonsils and adenoids, may extend to the middle ear through the Eustachian tube.

Infections which produce the greatest number of diseases enter the system by the way of the respiratory and alimentary tracts; hence the great importance of the well-known diseases of the nasal passage with their sinuses, and the large tonsils and adenoids with their cryptogenic infections. There may be but a slight discharge from the nose or perhaps a little tenderness in the tonsillar region, or, the patient may manifest no other symptoms than a general inability to do good work, expressed as, not feeling well. Such an individual is subject to frequent acute attacks of rhinitis, pharyngitis, laryngitis, bronchitis and tonsillitis, with all the local as well as general complications.

Some of the common sequels of these focal infections are acute rheumatism, acute nephritis, acute endocarditis, pneumonia, appendicitis, gastritis, tuberculosis, cholecystitis and meningitis.

I do not wish, however, to convey the idea that these are the only sources of infection, but, I want to emphasize that this source is frequently overlooked. To investigate and manage these patients requires team work of the clinical and laboratory workers.

The clinician must carefully examine the patient, and exhaust every detail in personal history. The dentist, the eye, ear, nose and throat specialist, the genito-urinary expert, and others may be necessary to locate the foci of infection.

The focus must be found and destroyed. It is an established fact that typhoid fever enters through the lymphatics of the intestines and severe toxemia may follow acute inflammation of the lymphatics, of the pharynx and epipharynx.

In my opinion, the faucial tonsils are the most frequent sources of infection. There is abundant evidence in the literature to show that a great many general infections take place through the tonsils, pharynx, nasopharynx with its adenoid tissue, the peritonsillar tissue, and the lingual tonsils. In fact, the ring of Waldeyer is the most vulnerable part of the body, and the faucial tonsils the most frequent seat of inflammatory attacks.

In 1901, I read a paper calling attention to the fact that diseased tonsils and tonsillitis were the cause of rheumatism, and not rheumatism the cause of tonsillitis, as a great many physicians then believed. It is a well-known fact by most practitioners that the streptococcus or other germs can enter the blood through the medium of the tonsils, and attack the joints, heart or kidneys. I believe we are not active enough in spreading this belief.

In 1910, Loeb cited four cases, and said that acute nephritis results from acute tonsillitis far more often than is generally believed.

Dr. Brown mentions among other diseases, chorea, neuritis, pleurisy, iritis, phlebitis, osteomyelitis and Hodgkin's disease.

Dick and Brumister believe that asthma and even true epilepsy may be produced through the agency of the tonsils.

D. J. Davis reports the results of his observations of forty-two cases of chronic streptococcus arthritis; in all of these cases the source of infection was diseased tonsils.

Brauson reports a case of Sydenham's chorea, and he believes that this and rheumatic fever are due to the one and same infecting agent, and has shown that the most common avenue of rheumatic infection is the tonsils, and next the nose.

F. Theisen reports six cases of acute thyroiditis following tonsillitis.

Ben Witt Key speaks of absorption from tonsillitis infection as a causative agent in phlyctenular conjunctivitis.

Keefe reports a case of a child 6 years old who had a double mastoiditis and pleurisy following an attack of tonsillitis.

Dr. Carter of New York reports a case of acute tonsillitis in a little girl, and on examina-

tion found that she had chronic endocarditis, which two days later became very severe. She had previously had several attacks of tonsillitis and he advised the removal of her tonsils, but the parents objected on the grounds that she had had heart trouble. He saw the child in three other attacks of tonsillitis, followed each time with acute endocarditis. Two years after he first saw her she died in one of the attacks. The size of the tonsil has nothing to do with the question. In fact, the dangerous tonsils are the submerged ones, and the ones that have had several previous infections.

Pathological changes have occurred in the crypts; drainage is interfered with and then we get absorption.

We must conclude from our clinical experience that the tonsils are the source of a great many more cases of focal infection than is suspected, and that therefore they should be thoroughly removed.

CASE 1.—Mrs. B., who had never complained of any throat trouble, that is, no pain or special discomfort. She said that her breath was always bad and she never felt well, poor appetite, loss of weight, headache, at times some fever, had been treated for some time for her stomach. On examination found her tonsils rather small, one slightly tender and a little ragged. I advised the removal, which was done, and found about one-half dram of pus. It is needless to say that she recovered from all her ailments.

CASE 2.—I was called in consultation to see another patient ten days after she had taken ill with a sore throat. Her temperature had run as high as 105 F.; one side of her face and neck had been very much swollen and hard, but when I saw her the temperature was 100 F., and the swelling on her face and neck had disappeared and her throat was not giving her much trouble. I was called in on account of her eye which was swollen and inflamed and very painful; found she had glaucoma. One of her limbs was swollen at the knee and was very painful. The next day her kidneys refused to act and her bowels constipated. The fourth day she died of uremic poisoning.

She gave a history of frequent attacks of tonsillitis and rheumatism, also her eye had given her trouble before.

CASE 3.—Patient had suffered for years from chronic ethmoiditis and polypoid degeneration, which had finally resulted in a severe attack of asthma. A number of operations had been done, with practically no permanent benefit. We finally operated on the patient, removed the middle turbinate and all the anterior and posterior ethmoid cells with biting forceps and curet. The operation resulted in a complete relief from the asthmatic condition and a rapid restoration to health. In these cases, where there are polyps, to get a cure we must do an exenteration of the entire labyrinth.

Taking out polyps alone is like cutting the heads off dandelions, and it is only a short time until you will have to do your work over, and the patient is only temporarily relieved. I think anyone who has noted the mental and physical make-up of a child, before and after the removal of large tonsils and adenoids from the throat, must be convinced that the change is due

not only to a better air space, but a constant systematic infection. They appear ill-nourished and below par, and as their resistance is lowered they are much more liable to the diseases of childhood than otherwise.

I have several times removed tonsils in adults, which were so shrunk as to prevent scarcely more than a thin band of fibrous scar tissue, and the structure so firmly adherent to the underlying tissue that it could not be pulled out of its bed, and where the enucleation of the small insignificant looking fibrous tonsils resulted in a complete cessation of attacks of sore throat as well as a disappearance of the chronic systemic infection and improvement in the patient's general health. In all cases of chronic systemic focal infection, where the competent internist is unable to discover evidence of foci elsewhere, the faucial tonsils should be suspected, and the nose, throat and ear should be carefully examined by some competent man.

We all recognize the disease of the meninges, phlebitis and thrombosis of the blood-vessels due to purulent otitis media, whether of acute or chronic form. The meninges may become affected by continuity of tissue or indirectly by small veins which arise in the lining membrane of the pneumonic mastoid cells and which anastomose with veins about the dural portion of a lateral sinus, or it may traverse the lymph spaces which surround the nerves and arteries.

In chronic cases the patient may have very little, if any, noticeable discharge from the ears, and suddenly develop a meningitis and die in from twenty-four to forty-eight hours.

CASE 4.—Appendicitis. A man aged 35 was attacked with a lacunar tonsillitis, and on the following day a severe attack of appendicitis. I called in a surgeon, who advised an immediate operation on the appendix, which was done. A highly inflamed and swollen appendix was found.

This man gave a history of several previous attacks of tonsillitis and on each occasion he claimed to have an attack of appendicitis.

It is not always during the acute attacks of tonsillitis that we have our systemic trouble. A patient recovers from the acute attack with latent unsuspected foci remaining in the tonsil and only after the lapse of some months or years does evidence of systemic infection appear.

It is in the recognition of these chronic cases that the chief difficulty presents itself.

Frequently no distinct evidence of infection can be demonstrated, nor will the patient recall ever having had an attack of tonsillitis, and yet when the tonsils are removed abscesses will be found.

It is evident that systemic focal infection is of great importance and our work should co-operate with that of the internist.

706-7 Rialto Building.

THE FUNCTIONS OF THE BOARD OF CENSORS*

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It is incumbent upon the chairman of the board of censors, in conformity with inherited custom, to report upon the proceedings of this board during the year past, to describe and in part to explain its actions in specific cases, and to inform you to a degree as to some of the problems presented to it directly or indirectly, and so far as duty impels to suggest or make specific recommendations having to do with professional decorum and propriety. Such we will humbly endeavor to present to you, begging your indulgence and mercy.

In the first place I wish to make a statement bearing upon the office of censor in this society. It is an elective office, in which the membership at the annual election nominate candidates and elect to office by a two-thirds or majority vote one member of the board of censors annually to serve for a term of three years. I have as yet heard of no one in the history of the society seeking the office. Hence we must believe that the member elected is the independent, if not unanimous, choice of the society as a whole. Upon his election such member has placed upon him specific and prescribed duties especially having to do with determining the scientific and legal qualifications and personal character of applicants to membership, and subsequently to pass upon the ethics of their conduct as members of the society, and in their several professional relations which they may establish outside of the society, as members of the medical profession.

Among the specific matters coming before the board at times are those of membership, publicity, commercialism, contract practice, hospital management, staff connection, etc.

MEMBERSHIP

As to membership, we, as a board, believe that every qualified, ethical member of the medical profession, in active practice in Jackson County, Mo., should be a member of the county society. His qualifications should be dependent upon his possession of a diploma from a recognized medical school, his legal registration, following the passing of a state's board requirements, and upon his demonstrated technical ability as shown by a year or more of practice within the county, coupled with his recognized, ethical conduct. This conduct should depend upon freedom from advertising, sectarian prac-

tice and commercial methods. One's eligibility to membership should also be dependent upon the association of any possible candidate with the membership of our society, and the attendance for a year at least upon the weekly meetings previous to nomination. This would permit the council and membership to vote intelligently upon every proposed applicant.

During the past year the names of several applicants have been presented to the board who have been residents of this city for a great many years; have never attended our meetings with any regularity, are not known to a large number of our society nor have they a recognized standing professionally in the state or nation. Some of these come from other localities with questionable records, or have left their former societies not in good standing.

Others who desire membership have for five, ten or fifteen years done advertising and have in some instances had a reputation for malpractice. Success has not come to them professionally and seldom financially. They have no professional status and now desire a position and character conferred upon them. As far as the young man who has made a mistake in his early conduct and recognizes it and desires and needs the support of the county society, we believe he should be given the welcome hand of membership and helped in the establishment of correct habits and to a higher professional life. With the older and confirmed habitué of 40 to 70, who late in life with an established though questionable clientele and fixed habits, seeks membership in a society which has been built up by ethical and self-sacrificing men to a recognition in state and nation, we do question if it would not be an injustice and impractical to confer upon him membership. From the comment and at times the criticism coming to the present board, we even have to question some of our specific recommendations of the past. And it places us where we feel impelled to call your attention to this point. The truth of it is that if a man's habits and character have kept him out of a recognized society for ten or more years, simply as a problem of psychology, he cannot be of much value to the organization, and it is very doubtful if we can benefit him.

Another group feeling their way with us are the doctors who have given up practice and are now in the manufacturing or detailing of medical proprietaries and supplies. They are in perfectly legitimate and ethical avocations, but the only excuse or reason for their desiring membership with us is a commercial or business one. We can wish them well and use their products, so far as they have merit, but a dignified professional and scientific body such as ours can establish no alliance or recognition

* Read before the Jackson County Medical Society, Dec. 22, 1914.

with such as individuals or as a class. Our body is strictly a scientific and professional one, not a commercial one.

Specifically, in matter of membership, we would recommend that the incoming secretary and the membership committee reestablish the file system, initiated by a former secretary, and if possible make lists of the eligible and ineligible practicing physicians, with data bearing upon their origin, methods, ability and habits, so that the board of censors may be better informed upon the merits of all applicants. Then upon such a list those considered eligible should be invited and urged to join this society.

PUBLICITY

The subject of publicity in its various phases is one of the most trying questions to deal with in the medical profession, especially when it comes to defining or curing it. The passing year probably has seen less newspaper advertising than usual, though a few have received a one-half or one-fourth column to their embarrassment. The daily press in some instances has tried to force the publicity of matter presented by certain members of the society which was avoided, much to the credit of the medical profession and in the interest of scientific medicine. As a leading profession and scientific body, we should acknowledge the quite apparent discretion shown to-day on the part of the local press in avoiding the publishing of names in connection with medical cases and interviews, the subject matter of which is of public interest, but the personal association, save in case of a health officer, is of no interest or value to any one. We hope such practice may continue and develop.

There are other kinds of publicity which come to certain groups of men in our society, and the question arises as to whether any cognizance should be taken of it. Especially is this true of those who frequently appear before distant county and district societies with papers, with resultant business following them back to the metropolis whence they radiate. If due to their special fitness, original work and merit they are called to take to the less fortunate and unlearned the result of their greater opportunities and larger laboratory and clinical experience, then we by all means recommend such methods to continue; but if it is primarily to familiarize the country doctor with the names and personalities of municipal consultants we question the ethics and as well the lasting beneficial results. A specific instance in this line and illustrating a danger to medical progress is that of a paper recently presented to a district society upon the use of vaccines and phylacogens. Such products are at least held *sub judice*, by

the Council of Pharmacy and Chemistry of the A. M. A., and by all careful experimenters and clinicians. Reports upon them should only be of results in which the bacterial etiology of the disease has been proven and the associated recovery can be scientifically demonstrated as due to the remedy used. The harm and the question of ethics arise over the fact that the busy and frequently unread country doctor cannot judge intelligently the correctness of the dogmatic presentation and he is often deceived. The result is an enriched manufacturer, but a public frequently imposed upon.

Again, we can see nothing but a commercial advertising scheme in the practice of a southern surgical house in publishing in their annual catalogue the technic of a certain surgical procedure of a local surgeon. Whatever the purpose of the manufacturer or publisher we are treading on dangerous ground to aid in abetting his methods. "Sanatogen" sales are up in the millions due to the names of poets, novelists and even German physicists and physicians lending their endorsements. An alliance with the lay press is invariably commercial and dangerous both to the physician given publicity and to the medical organization of which he is a member.

CONTRACT PRACTICE

Contract practice can only be mentioned to point out certain tendencies which we as a profession are being related to, independent of our organization, and due largely to changing industrial and social conditions. In England, Lloyd-George forced upon the British profession a scale of charges similar to lodge and contract fees. European industries, American manufactories and large employers are establishing sick and liability insurance with the guarantee of caring for those becoming sick or injured. This means the having upon their pay-roll a medical director and a stated surgical staff selected from the regular medical profession. And so far as such system obtains in Jackson County it means that such staff is selected from the members of this society.

It can be stated authoritatively, in one instance in this city, that an income or salary of over ten thousand is paid a medical director, and that regular surgical fees are paid to a group of retained surgeons by a large establishment employing thousands. Such practices are the result of circumstances and industrial and economic evolution, but they are not ideal. We feel more than justified in saying they are not ethical, nor does the present contract method engage necessarily nor primarily the most qualified and ethical members of the profession.

Especially to be criticized is the relationship established between corporation, liability insurance company and doctors, in which inevitably small fees are paid for specific service rendered. An instance of this can be cited in which a local manufacturing house, which formerly employed a certain surgeon and paid him his regular charge for any service rendered, recently established a liability insurance upon their employees. The physician in question was invited to act as the surgeon for the company and for the munificent sum, as pro rated, of \$29 a year. His annual services might be worth \$10 or \$500, of course a gamble, but the fee was dependent upon the number of men employed and not upon the medical service, the only just means of charging until state medicine is inaugurated.

From the company's standpoint the motives involved in contract practice are for protection against legal action and to reduce expenses. From the standpoint of the medical profession and the individual physician or surgeon it should be solely that efficient service and a just recompense be secured. Upon such principles must we approach and study this question. Until the state extends its functions to caring for its sick and injured, we, through a joint commission selected from the medical profession and the employers of labor, must strive to adjust these questions so that the just action and ethical conduct of our members may not be questioned.

Railway surgery, liability insurance, the contract system of large wholesale and manufacturing concerns, mining, lumber and lodge practice all in their varying degree come under this system. It is firmly intrenched and dangerous in its present methods, its origin and its control from within. And just as the United States government had to come in to regulate the various usurious practices of the national banks, so the medical profession, as regards its membership, will have to step in and help define and limit the relation of its members to contract or industrial practice.

MALPRACTICE

With considerable hesitancy is this subject approached, but with knowledge of certain work done in this city during the past few years by members of the medical profession, and with the reports of our board upon the work by certain members of this society, we feel that it would be neglecting a very important duty not to consider it.

Countless abortions occur in this as in every city every year. Many of them among the married and unmarried are induced, and the majority are performed either by or upon the advice of physicians. We realize that at times

the induction of abortion is indicated in order that a life may be saved, i. e., a mother. But more often, and usually, it is that the birth of a viable child may be avoided. And not infrequently it results, as has been true in this city several times during the past twelve months, a mother also loses her life. It has not been proven that any member of our society has been guilty of such act within the past year, but the cases coming up in which members of our society were related or indirectly involved revealed to our board a great indifference to the subject as shown in their attitude.

We thus mention the subject to condemn it as the basest kind of criminality, and to urge that the duty of any physician having knowledge of such methods among our membership is to place such information in the hands of both the court and the Board of Censors at once that immediate and searching proceedings may be instituted with the hope of the guilty being found and the maximum penalty being affixed. Only so can such malpractice be lessened.

Another form of malpractice brought to our attention not infrequently has been in connection with the deaths of surgical cases operated upon by those whose skill did not justify the undertaking of the operation. Hysterectomy and resection, cerebral surgery and many laparotomies, indicate skill, judgment, and anatomical and pathological knowledge whose possession alone justify major surgery, save in the emergency to save life.

No more should the young or unqualified surgeon be entrusted with the major or critical surgical case than should the novitate architect or engineer be entrusted with the construction of a twenty-story office building or a Brooklyn bridge. Further, since some of this surgery is permitted in certain Kansas City hospitals we feel that in a double way we as a society are responsible. And it means that greater care and judgment must be exercised in the management and control of our hospitals.

HOSPITAL MANAGEMENT, STAFF CONNECTION, ETC.

Hospitals, hospital management and staff connections are matters of very great and vital importance to Jackson County and to this society. And at present, conditions existing and about to develop place upon our administration duties therewith which it must at once assume.

It is frequently said that the management of very few hospitals in this city is ideal, and in some it is admittedly bad. In case of our general hospital, which is merely a puppet in the hands of local politicians, we can never expect improvement until our mayor's hands are freed or the people themselves arise and demand, in

the name of humanity, service, and that scientifically rendered, without fear or favor. In the reorganization and establishment of modern methods of administration in this institution, our society, as the recognized medical body of the county and municipality, should be invited to name a committee to sit with the members of the board of health for advice and counsel. Further, medical members of the board of health and members of the city council who are physicians and also members of this society should recognize their obligations to advise the city administration so that a different and better state of affairs may result. Only by so doing and being aggressive in it do they in any way justify their tenure of office in the city government or membership in this society.

But further than this in the broad problem of our hospitals, we are confronted with a situation, in which with the proposed building of some three or four more large hospitals, two of them the outgrowth of old institutions and one a new organization, we have in this city no active "Organization of Hospital Managers," carefully studying into the ideal methods of management, uniform service, ideal training school for nurses, efficient intern discipline, justly adjusted scale of fees and regulated expense. In probably not one of the hospitals of this city can it be said that none but recognized ethical men are permitted to have patients and to operate. In few can it be positively stated that *only* the qualified and competent are permitted to operate.

Can the managers of all of our hospitals say that no case of curettage was performed during the past year save for indicated pathology, and that there were no preventable deaths? Are the nurses' training schools of our various hospitals directed by well qualified, intelligent, cultured superintendents of strong character? And do their nurses scientifically and ethically care for the patients entrusted to their care? Does the membership of surgeon or internist upon the staff of certain hospitals give him cases on account of this relationship from sources not regular, as from a physician not in good standing in this society?

These and other questions are of vital importance in connection with hospital management. And since the managers of several hospitals in this city are doctors who hold membership in this society, and since the membership of this society largely makes up the staff and visiting physicians of these various hospitals, we as a society have a vital interest; and in advocating a general improvement, with the formation of a "Hospital Association," we have an obligation which is immediate and urgent. Such, we, as the Board of Censors, recommend.

COMMERCIALISM

Commercialism, which has, in the form of case-buying or division of fees, been considered in the past, has not been entirely eliminated. Some few, fading remnants occupy dark corners of our office buildings and a few straggling agents from Kansas and Missouri ply their trade, but not in the glamour and freedom of former days. The public has been "put wise" and our own sinning colleagues are fast seeing the light. Our board can say to you that irrespective of any charges being preferred, recently more than one member of this society accredited with fee-splitting have voluntarily made a statement of present methods which are far different than was true of their previous reputation. Even the bankers will tell you that the character and volume of their business with the city surgeon and country doctor are materially changed.

CONCLUSIONS

Such, fellow members, suggest some of the ethical and professional problems which present themselves to the membership of this society and to your board of censors. There are others of equal importance, and as they come up concretely must be met.

As with the noticeable improvement in the scientific programs under the present administration, so likewise can it be said now that never in the history of the Jackson County Medical Society has the general morale of this body been better. As a board we hold office only for service, and we humbly await your deliberations and instructions for the year 1915.

1004 Rialto Building.

DOES INSANITY INCREASE? WITH A REVIEW OF THE FIRST TWO THOUSAND CASES AT STATE HOSPITAL NO. 4, FARMINGTON, MO.*

FRANK L. LONG, M.D.
FARMINGTON, MO.

The question might be asked, Why, with such a large percentage of heredity in all the psychoses, does the human race not eventually become insane?

In the first place, it is a well-known and accepted fact that a psychosis develops earlier in the descendant than in the ascendant. In other words, where a psychosis is present in both parent and child, the child will have it at an earlier age than the parent did. This fact is very apparent in studying the family histories of a great many patients in this institution.

* Read before the St. Francois County Medical Association, April 14, 1914.

Again, there is possibly a condensation of the abnormal traits in individuals in such a way that a child inheriting any of the abnormal traits tends to receive them all together, i. e., either as entirely normal, or as abnormal as possible. Hence the earlier age and condensing of abnormalities will result in a lessened possibility of procreation. This accounts for one child or more being abnormal, while the rest of them are normal.

While the Mendelian theory cannot be applied accurately to the human race, from the fact that it is impossible to control marriages, yet the analogy is apparent. For this fact, then, we find nature, through heredity, trying to keep up a general average of the race throughout its struggles with environment.

In other words, according to Mott, nature will either *mend* or *end* the defect. This, I think, is more applicable to the dementia praecox and manic depressive group than to the acquired psychosis with organic lesions.

It is claimed by many that it makes no difference, so far as the mental condition of the expected child is concerned, when the parent develops the psychoses, that is, whether it is prenatal or antenatal. In other words, there is as much liability of the offspring developing a psychosis when the parent is insane before the birth of the child as there is if it is born before the parent develops the psychosis. It would be next to impossible by legislature to prevent the marriage of such individuals before the insanity develops, yet, they should not be permitted to do so afterwards.

We do not know to what extent like begets like, yet we do know that these people cannot better the mental condition of their progeny. The greatest assistance possible should be given nature in her struggles to keep down insanity. All idiots, imbeciles, feeble-minded, both male and female, should be sterilized before leaving an institution. This is a simple and harmless operation in the male, and one of very little danger to the female. The cost of segregation is the greatest objection to it. And again, it would be a great deal harder to carry out than sterilization. The sterilized ones could be permitted to mingle again with society and possibly earn a living, yet be in no danger of leaving any offspring to become insane. Realizing that the environment of those people liable to insanity is the greatest predisposing causes of it, this condition could be greatly benefited by having compulsory insurance of all married people, and in this way the orphaned children would be protected against poverty and disease.

In examining the family records of a good many insane in this institution, I find that the

manic depressive class have a great many children, in fact, are prolific breeders. It does not follow, however, that all these children will eventually become insane, but nature, through its laws of heredity and proper mating, will mend the trouble. On the other hand, in the dementia praecox group, the inherited abnormalities have been condensed, so to speak, on this psychosis, in the early life and the liability of procreation is lessened to a very small degree, in other words, nature has tried to end the mental defect.

The question is often asked why there is such a low percentage and not a higher one of syphilis in defective children. While syphilis is on the increase, yet a majority of syphilitic children die before their mental condition is definitely determined, and only those of low grade, or distantly infected, parents live to any age.

Much has been said and written about the increase of insanity, but as far as the state of Missouri is concerned, it is not a fact. It is a fact that the population of the institutions are gradually increasing, but the increase of insanity is judged from the yearly admissions and not by the population.

First, take State Hospital No. 1 at Fulton. The yearly admissions for the years 1909 to 1913 inclusive have been 290, 283, 236, 228, and 248, showing a decrease of 42 for the five years. The population at the end of each of the years was, 1,131, 1,133, 1,102, 1,018 and 1,061.

The same thing is found at State Hospital No. 2 at St. Joseph. The biennial admissions for the ten years ending Dec. 31, 1912, were 697, 782, 799, 864, 789 and 755. It is significant that the admissions for 1911 and 1912 were lower than any biennial period since 1901. The population during this time increased from 1,196 to 1,506, or a yearly increase of 25.

At State Hospital No. 3, Nevada, Mo., the admissions for the period of five years from 1909 to 1913 inclusive were 327, 316, 281, 380 and 305, showing a gradual decrease, except for 1913, and that was 22 lower than 1909. The population during this time was: 1,274, 1,230, 1,136, 1,234 and 1,164.

The same is true at State Hospital No. 4, where we find that the yearly admissions have gradually diminished during the same period of time, viz., 191, 180, 163, 148 and 135 for 1913, showing a decrease of 56 between the years of 1909 and 1913.

Owing to the transfer back to St. Louis of 84 patients in 1911, the population is not what it was in 1909. The yearly population for this time was 604, 578, 514, 556 and 575 for 1913. The present population is 608.

The City Sanitarium of St. Louis, during the year of 1910 and 1911, after the completion of their new hospital, withdrew all their city patients and at the end of 1911 they had a population of 1907. This had increased to 1,991 at the end of 1913. The admissions for 1913 were 576 and 625 for 1912, being 49 less than the preceding year. The population of the four state institutions and the City Sanitarium of St. Louis, on Dec. 31, 1912, was 6,328, being 1 to 528 of the total population of the state in 1910, which was 3,293,335. The ratio of the insane to the population was 1 to 355 in Illinois; 1 to 343 in New York; 1 to 357 in Wisconsin according to the 1910 census. The ratio of admissions for 1912, in the five institutions, to the state population in 1910 was 1,989 to 3,293,335, or 1 to 1,989, or almost 1 to 2,000. This is a much greater ratio than most of the surrounding states. The population of the state during this time has, we all know, increased rapidly, so it is self-evident that insanity is not increasing greater than the population (in proportion), but in fact is, according to the yearly admissions, growing less.

The care and treatment of the insane should not be the only object of the state, but there is another work which is of equal importance, to say the least, and that is the prevention of insanity and the after-care of those who have been discharged as recovered. The state of Missouri is doing well in the first of these, but prevention and after-care is of greater importance than the custodial care of the chronic and incurable, which is right and proper, but none is being used for the prevention and after-care.

We, in the hospitals, are directing our time and energy to the cure and amelioration of those committed to us, but the state and others as well should strive to do something to prevent insanity, and to keep those who have been discharged or recovered from returning again. I personally know of a great many cases who have been discharged from here well and in good condition, only to go home and, under adverse circumstances and bad environment, begin to fail in physical health and soon the old mental trouble is on them again, and back to the institution they come. Now, by proper care and oversight, most of these people could be tided over this critical period and looked after until they are on the road to health again.

Since the opening of State Hospital No. 4 at Farmington, Mo., on Jan. 1, 1903, until Aug. 1, 1913, comprising a period of ten years and seven months, there have been admitted into the institution 2,000 cases. Of this number 120 were transferred from State Hospital No. 1

at Fulton, Mo., on Aug. 12, 1903; these patients belonging to southeast Missouri, and being old cases, necessarily a great many of them were chronic, also the 100 patients whom we cared for for the city of St. Louis from Nov. 20, 1904, to Feb. 21, 1911, were all returned, except 14 who died, as unimproved, on Feb. 21, 1911.

There have been discharged from the hospital 524, or 26.1 per cent., as recovered. Of this number 272 were men and 252 were women. There have been admitted 222 epileptics and 114 idiots and imbeciles, making a total of 336, or 16.8 per cent. of the total admissions. It is a well known fact that almost, if not all, of the epileptics in a state hospital are incurable, and were so at the time of admission, and have no chance of recovery. Also from a psychological standpoint the idiots and imbeciles could never recover, consequently the care of this class of patients is essentially custodial.

Now if these 336 patients are not included in the total admission, then the percentage of those cured would be 31 per cent. If only the 114 idiots and imbeciles are not included, then there would be 27.7 per cent. recoveries.

Based on the total admissions, I think this a good record and one to be proud of.

Two hundred and seventy-nine men and 190 women died, making a total of 469, or 23.4 per cent. Of the 237 discharged as improved, 99 were men and 138 were women, making in all 11.7 per cent.

Two hundred and sixteen were discharged as unimproved, 132 men and 84 women, total 10.8 per cent. All the patients transferred back to St. Louis were unimproved.

One of the most surprising things noticed was the low percentage of cases showing heredity. Only 25 per cent. are included in this class.

Most authorities and books claim a much larger percentage, even as much as 50 to 75 per cent., and the only reason I can assign for this is that the histories accompanying each patient are not properly filled out, or no history at all, but more often it is concealed, thinking it is a disgrace to admit it. In several instances there have been parent and child, and often brothers, sisters and brother and sister.

Surprising as it may seem, 18, or nearly 1 per cent. of those admitted, were not insane, and were discharged as such.

Also, to my personal knowledge, four persons were admitted in a dying condition, suffering from acute meningitis unrecognized at home. The utmost care and precaution should be had before sending this class of patients to a state hospital, thereby preventing a person being taken there to die, and doing an unjust act to the family, as well as to the patient.

Nine cases were admitted directly due to typhoid fever, and 24, or 1.2 per cent., as puerperal. Of the morphin and drug addictions, 12 were men and 13 women, making 1.2 per cent. These all recovered.

The question of alcohol and insanity is a much-discussed one, and personally I believe that a greater amount of cases are due directly or indirectly to it than the records show. This, like heredity, is often concealed by the family and patient. One hundred and eighty-seven men and 13 women were alcoholics, making in all 10 per cent. Taking the men separately, 17 per cent. were due to alcohol.

Only one case of Korsakoff's psychosis has been noted, and only 5 cases of pellagra, however it is only recently that pellagra has been recognized.

Last but not least is the question of syphilis and paresis. The records show that there were 22 men and 4 women with syphilis, and 43 men and 12 women with paresis, making a total of 4.1 per cent. due to syphilis. Taking the men separately, 6 per cent. were due to syphilis. While most of our patients are from the country districts, yet I think there have been more syphilitics admitted than there have been found out, because of the fact that the Wassermann was not used.

The admission of idiot and imbecile cases from the county farms has increased a great deal, and as the counties become more enlightened about the care of their wards they will send more of them here, and keep the county farm for what it rightfully should be. These cases, with the chronic insane, under the modern sanitary surroundings in a state hospital, live a long while, and make up a large percentage of the permanent population of every institution.

Under the head of prevention of insanity could be grouped the syphilitics, paretics, alcoholics, drug addiction and most puerperal cases, amounting to 16.5 per cent. of all cases admitted. Surely prevention along educational lines is badly needed.

It is impossible to arrive at any definite conclusion about the manic depressive cases, for the reason of the many classifications that have been used. Heretofore the manic depressive cases have been called mania, acute mania, circular insanity, melancholia, etc., and seldom were the excited or depressed phase ever designated, and as these forms of insanity make up a great percentage of the admissions and offer the larger field for recoveries, it is highly essential that we know in which class the recoveries are the most. During this biennial period we hope to be able to show the relative differences in this form of insanity.

During the life of this institution there have always been a great many of the patients occupied at some kind of work, either on the farm, in the laundry, kitchens, etc., or ward work. The cottage system makes more outdoor work than the old style buildings.

Occupational treatment is a good thing, and should be carried out to a greater extent. Out of the 575 patients, 67 per cent. are employed either on the ward or on the outside. Seventy-eight per cent. of the men are thus employed and 23 per cent. are on the outside. Only a few women are employed on the outside, there being a few in the dining-room, kitchen, laundry and sewing-room. Fifty-three per cent. of the women are thus employed, either on the outside or on the ward.

FOLLOWING ARE THE ESSENTIALS IN TABULATED FORM

SYPHILIS	{ Men	22 }	26 or 4.1 per cent.
	{ Women	4 }	
PARESIS	{ Men	43 }	57
	{ Women	12 }	
ALCOHOL	{ Men	187 }	200 or 10 per cent.
	{ Women	13 }	
MORPHINE	{ Men	12 }	25 or 1.2 per cent.
	{ Women	13 }	
PUERPERAL	24	1.2	per cent.
TYPHOID	9 .....	.45	per cent.
NOT INSANE	18 .....	.9	per cent.
KORSAKOFF	1		
HEREDITARY	501	25	per cent.
IDIOTS AND IMBECILES	114	5.7	per cent.
EPILEPTICS	{ Men	133 }	222 or 11.1 per cent.
	{ Women	89 }	
PELLAGRA	5		
Men recovered	272		
Women recovered	252	Total 524 or 26.1 per cent.	
Men died	279		
Women died	190	Total 469 or 23.4 per cent.	
Men improved	99		
Women improved	138	Total 237 or 11.7 per cent.	
Men unimproved	132		
Women unimproved	84	Total 216 or 10.8 per cent.	

POLIOMYELITIS; WITH REPORT OF CASES

D. E. SHY, M.D.

KNOB NOSTER, MO.

The term poliomyelitis means an inflammation of the gray matter of the spinal cord. As such inflammation is almost entirely restricted to the anterior horn, the prefix anterior is quite unnecessary. For a long time it was believed that poliomyelitis attacked infants only, and it has long been known as infantile paralysis. A further study of the subject shows it to exist among older children and adults. It is found in many countries, though most prevalent in America.

Poliomyelitis is an acute infectious disease occurring sporadically, endemically and epidemically, and is due to an organism which causes, directly or indirectly through its toxins, an exudative inflammation of the gray matter of the spinal cord. The common and principal lesion is restricted to a very narrow amount

of gray matter in the anterior horn and one or both horns may be attacked.

The lumbar enlargement is the usual seat of the disease though the cervical enlargement is frequently affected. Rarely do the foci of the disease include more than two segments of the cord. Cases have been noted, however, in which the entire cord was involved or in which inflammatory foci occurred at different levels of the cord, as in the cervical and the lumbar enlargement at the same time.

Histologically the inflammatory foci are composed of lymphocytes, occasional polynuclear leukocytes, transitional forms, fibroblasts, and rarely plasma cells. This process often affects the meninges and spinal roots as well. The inflammatory process has a decided tendency toward limitation, and the tissues involved show a remarkable inclination toward restoration. Cells which are completely destroyed, however, never regenerate. Many of the cells in an inflamed area, which for a considerable time are functionally inactive, recover after the inflammatory process has subsided, the lymph circulation is restored and the inflammatory exudates are absorbed. When the ganglion cells perish, all their intraspinal and extraspinal parts go with them. Therefore the anterior roots, the peripheral nerves which they go to form, and the intramuscular distribution of these nerves decay when the cell body is destroyed. This forms the anatomical basis of poliomyelitis.

Cause.—The cause of poliomyelitis has been fully demonstrated to be a minute virus which has not as yet been isolated, though the disease has been reproduced in monkeys by injecting cerebrospinal fluid and mucus from the posterior nares of patients suffering from the disease.

In man it is believed to enter through the nasopharyngeal mucous membrane, there being taken up by the lymph and venous system and carried to the spinal centers. The months of July and August are the periods of most frequent occurrence and June and September come second. It sometimes follows in the wake of infectious diseases. In one case I found it following a case of summer diarrhea; in another it occurred in the strongest boy of a family of five. The vast majority of cases occur between the first and the fifth year.

Many types of the disease are described. Wickman recognizes eight. The spinal, the bulbospinal and the cerebral forms are most common.

Symptoms.—The initial symptoms are those common to all mild forms of infection, such as disinclination to work or play, stupidity and a desire to be left alone. Within a few hours,

or a day or two at the longest, the patient has a rise of temperature, which lasts only a day or so in children and longer in adults. The febrile period is usually preceded by chilly sensations, and by vomiting in children.

At the end of the febrile period, paralysis is noted in one or all extremities, but usually in one of the lower extremities. At this time there is a sensory disturbance due to infiltrations into the meninges and the posterior nerve roots, which produce a general soreness of all muscles. Disordered functions of the bladder and rectum have been noted in those old enough to observe the call of nature. As time goes on, what seems to have been a loss of function of an entire extremity may disappear and the paralysis restrict itself to a single muscle or group of muscles. At this time atrophy of the muscles begins to show itself with some distinctness, especially those of little adipose tissue.

It has been my experience that in those cases in which an entire extremity is involved all reflexes are absent.

Prognosis.—The prognosis is unfavorable if complete recovery is the standard by which such a forecast is made. As a rule these patients live, though there is always more or less permanent injury.

CASE 1.—C. W. was attacked by the disease in September, 1909. He was then 19 months of age. Father died in June, 1908. Mother and five children lived by the charity of neighbors. Child normal; walked at 1 year of age. In July, 1909, he had summer diarrhea; was sick about six weeks and was very bad most of that time. About one month after dismissing him from my charge I was called to see him again to find him paralyzed in both lower extremities. His initial symptoms were overlooked by his mother. Reflexes were absent. Cried when legs were moved. The sensory disturbance disappeared in four weeks. Atrophy was not very apparent, as both legs were about equally affected. Left thigh measures 9 inches, left calf $7\frac{1}{2}$, right thigh 9 and right calf $8\frac{1}{2}$. His flexor muscles were more active than the extensors, the knee and ankle joints not being well supported. He is not able to stand without support. Can get around on crutches. Has not been sick since the acute attack in 1909; appetite good and he is now going to school.

CASE 2.—V. B., age 6 years; negro boy. Parents living. Had mumps in the spring of 1913. Has had no other diseases of childhood. Walked when a little more than a year old, and has been a strong, active boy until Aug. 16, 1914. At that time he became sluggish, complained of being tired and was drowsy. The following morning he had a rise in temperature and was given a physic. The morning of the 18th I was called. He then had a temperature of 101 F., tongue coated, bowels not very active, and kidneys sluggish. He complained of a general soreness, especially in the extremities. On August 19 I visited him in the afternoon. At that time he was unable to move his arms or legs. When moved he would cry out as in severe pain; was restless and wakeful. He complained of pain in the flexor ten-

done above the knee when left alone, but had no other pain unless moved.

At this time and for several days his appetite was very poor and his bowels and kidneys sluggish. All reflexes were absent in the extremities. In a week his sensory disturbances disappeared and his appetite and emunctories became normal. He rested well at night and began to show inclination to amuse himself. At this time he also began to move his left hand a little and flex his right knee. In a few more days he began to effect a few slight motions in the other extremities. Had some grip in both hands, but more in the left. Puts either hand to his mouth, but with great difficulty. In this case as in the other, the atrophy was not so apparent, owing to its affecting like members.

Treatment.—The treatment of poliomyelitis may be considered under four headings: (1) Prophylactic treatment; (2) the treatment of the febrile stage; (3) the treatment of atrophy and its consequent paralysis; (4) the treatment of deformities.

There seems little doubt as to the contagious nature of the disease, as has recently been demonstrated. Prophylactic measures are then important. The patient should be isolated and the other children of the family should be kept from school from six to eight weeks. The discharges should be burned or disposed of in such a way as to destroy the virus. Some recommend the use of antiseptic sprays and large doses of urotropin to those coming in contact with the patient. I have used no such measures and have never had the second case in the same family.

Treatment of the Febrile Stage.—The appropriate treatment during the febrile stage is an ice bag to the spine, or dry cups; a few small doses of calomel to be followed by a saline; acetphenetidin if fever runs high and also to relieve pain; salol to prevent intestinal fermentation and urotropin in large doses because of its possible entrance into the cerebrospinal fluid. In my own experience and in the experience of others I find that this stage is often overlooked by the parent and we do not see these cases until the paralytic stage has been reached. There is sometimes an intermission between the febrile and the paralytic stages in which the child will get up and appear well only to relapse in a few days, paralyzed in one or more extremities. The avenues of elimination should be kept mildly stimulated during the course of the disease. Rest in bed during this stage should be imperative. Mild counter-irritations over the affected foci in the spinal cord are recommended by some.

Treatment of Atrophy and Its Consequent Paralysis.—After from two to four weeks our efforts toward improving the nutrition of the atrophy of the muscles and stimulating the paralyzed parts should be undertaken. The most valuable agents are electricity, massage, local warmth and exercise.

Electricity has a twofold effect—first to influence the circulation of the blood and lymph through the foci of the disease, and to stimulate the neuromuscular apparatus to prevent inactive atrophy and to increase the nutrition and volume in the atrophic muscles that are not destroyed. There seems to be some choice as to the kind of current used. I have used the galvanic current, as I had no other at hand.

Warm baths, to be followed by massage, seem to do good both in stimulating the atrophied muscles and as a sedative to the patient.

At this time the child should be encouraged to play with toys and to exercise as much as possible. The use of the paralyzed member helps to bring those muscle fibers which are only partially affected into use. Treatment of the deformities means muscle transplantation, and the treatment of the various forms of club-foot, and in some cases the use of braces. On this phase I shall not dwell as it is more in the scope of the orthopedic surgeon.

THE DOCTORS PROTEST

The Federal law regulating the sale of narcotics is the result of the first comprehensive effort this country has made to control the drug evil. It is probable that the law will be found to be in need of amendment, but the best way to discover the defects in it is to accept its provisions as they stand and enforce them. The general public has little power in this matter since only a few people are concerned in the production, distribution or use of habit-forming drugs, but the medical profession stands in a different relation to the matter. The doctors can render indispensable aid in making the operation of the law effective or they can go a long way toward annulling it. It is to be feared that the loyal support which physicians must give the law if it is to succeed will not be accorded if the attitude of any large part of the profession should prove to be that of the Madison County Medical Society, which has officially denounced the law as unjust and demands its repeal or radical modification. If physicians believe the law to be unjust to them it is their right to protest, but when a law has a purpose so beneficent as that of the Harrison law it strikes *The Republic* the medical profession owes the public something more than a bare protest. The profession might even be generous enough to pledge its active support for the law in the interest of all the public and in spite of such hardships as the law may put on the members of the profession. It would also seem that those members of the profession who are protesting should in their official remonstrances tell the public just where the injustice is and offer the people a better law. Such a course would help the cause of an important reform and remove a natural impression that the protesting doctors may merely be expressing their annoyance over a rigid law which is making them more or less trouble but is not invading their rights.—St. Louis *Republic*. [The reference is to Madison County, Illinois, not Missouri.—Ed.]



H. C. SHUTTEE, M.D.
President 1914-1915

THE JOURNAL

OF THE

Missouri State Medical Association

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MAY, 1915

EDITORIALS

HENRY C. SHUTTEE, M.D.

PRESIDENT, 1914-1915

In his speech of acceptance when installed as President at the 1914 session, Dr. Shuttee said he regarded his election as a recognition of the country practitioners and not so much as an honor which he himself had earned. Dr. Shuttee has, however, modeled his life on lines that inevitably lead to places of trust and distinction. In placing him at the head of the profession the Association has worthily bestowed this distinguishing honor.

Dr. Shuttee was born on a farm in Huntington County, Ind., Mar. 24, 1858, the son of Dr. C. H. E. Shuttee, a native of Germany, where he was educated and earned his medical degree. In 1870 the family moved to West Plains, Mo., where Dr. Shuttee's father practiced, but later went to Mexico and Nicaragua and died in Nicaragua in 1887. Dr. H. C. Shuttee attended the public schools at West Plains, which of course in those days were not comparable with their present splendid public-school system, and later attended the School of Mines at Rolla. Subsequently he took a position in a drug store with the purpose of beginning the study of medicine and continued in this resolution, graduating at the Missouri Medical College in 1881. He was one of three who obtained the highest standing in a class of 119 graduates. He has practiced at West Plains since his graduation, except for two years spent in El Reno, Okla. With his wife, who was Miss Carrie M. Burgess of Gorham, N. Y., and four children, two boys and two girls, our President enjoys the well-earned rewards of an upright, conscientious gentleman and a trusted family physician.

ARRANGEMENTS COMPLETED FOR THE ANNUAL SESSION

The arrangements for the Fifty-Eighth Annual Session to be held at St. Joseph May 10, 11, 12, have been completed. The lectures in the churches will be given on Sunday, May 9.

Nineteen churches have opened their pulpits, one inviting speakers for the morning and evening services, and twenty members will address the congregations. The list of churches and speakers is published in another column.

The sessions of the House of Delegates will begin Monday, May 10, and all the business of the Association will be transacted on that day, including the election of officers. The Judicial Council will meet at noon on Monday, May 10, in the Hotel Robidoux. On Tuesday, May 11, the scientific sessions will begin and continue without interruption until Wednesday afternoon, May 12. There will be four sessions of the scientific program.

The exhibit hall will be unusually attractive this year. The room is separated from the sessions hall but it is in the same building and convenient for members to visit the exhibits without interrupting the proceedings of the Association.

The Buchanan County Medical Society members will extend a warm welcome to everyone and they have prepared some very entertaining features for the hours not occupied with the work of the Association. A few illustrations of interesting points in St. Joseph are presented in the department on Miscellany.

We confidently expect this session to set a new record for attendance. The largest number at any annual session in the past was registered at Kansas City in 1911, when 559 members attended.

As the 2-cent rate still prevails, there will be no reduction in railroad fare from any point, therefore railroad certificates will not be required. From St. Louis the direct route is over the Burlington. Members desiring to go by way of Kansas City have the choice of the Missouri Pacific, the Wabash, the Rock Island, the Alton and the Burlington.

Don't forget to bring your pocket card. Present it at the registration bureau. This will very materially facilitate the rapidity of registration.

See that your dues are paid in your County Society. Only members who have discharged this obligation will be permitted to register and take part in the proceedings.

THE HARRISON NARCOTIC LAW

On another page we publish certain rules from the acting commissioner of the internal revenue construing the new law with regard to the promiscuous handling of narcotic drugs. The statements clearly define the proper course to pursue under all circumstances. If, however, any question is obscure we invite mem-

bers to write the Secretary's office for definite information.

It should be firmly fixed in the minds of all that the government is making a determined effort to eradicate the drug habit among the people forever and prevent its recurrence. Physicians and druggists can render more conspicuous service to the authorities than any other class of citizens in accomplishing this purpose. The sincerity of the medical profession will be measured largely by the readiness of physicians to comply with the law in every particular. Complaints and appeals for modification to lessen the responsibility of the physician reflect no credit upon the profession. After the methods of enforcement have been well tried it will be time enough to suggest changes if it is found that physicians are performing useless service in any direction.

We suggest that our members do not permit themselves to be led into an attitude of disharmony with the law through editorial comments in medical journals charging that some of the rulings of the commissioner of internal revenue are not in consonance with the intention of congress. We should put ourselves in the attitude of entire sympathy with the purpose of the law and comply with all its provisions, not as interpreted by individuals but as interpreted by the commissioner of the internal revenue, who is responsible for the enforcement of the act.

ANOTHER PHASE OF THE QUESTION

It is true that many habitués will suffer intensely when the supply of their favorite drug is exhausted and will make pitiful pleas for relief. Bearing in mind that the fundamental purpose of the law is the eradication of the habit and the prevention of its reestablishment, it would be unwise for our members to supply addicts with the necessary quantity of drug to alleviate their cravings. The law does not specifically prohibit registered persons from doing this but the burden of proof would rest on the doctor to show that his administration of the narcotic was "in the course of his professional practice only." Failing to do so, the alternative is a fine of \$2,000 or imprisonment for five years. A large number of prescriptions or frequent purchases of the prohibited drugs by a physician will undoubtedly cause an investigation by the federal authorities. Addicts who cannot be treated and rapidly cured of the habit in private practice should be turned over to the county authorities and treated by the county physician at the expense of the county. Those who can afford to pay for treatment should be sent to a properly equipped and ethically conducted institution when they cannot obtain proper care in

private practice. There are a number of such institutions advertised in *THE JOURNAL*, all of which are worthy of the confidence of the profession.

OSTEOPATHS CANNOT HANDLE NARCOTICS

Osteopaths will not be given licenses to prescribe narcotics in this state. When the Harrison law took effect on March 1, the Secretary of the State Association immediately began investigating the status of the osteopaths and has received information from the collector of the internal revenue that osteopaths in Missouri will not be registered under the Harrison law. The ruling will apply to all persons who have practiced illegally; that is, those who are not registered with the county clerk previous to 1883 and those who began since that date without a license from the State Board of Health. If any such persons have registered with the collector of the internal revenue and are prescribing narcotics they are liable to prosecution for making a false affidavit and will be so prosecuted by the United States district attorney if the evidence is placed in his hands.

PUBLIC HEALTH SUNDAY AT ST. JOSEPH

The public meeting of the Association this year will take the form of lectures in the churches at St. Joseph by members of our Association. At this writing nineteen churches have invited speakers to deliver addresses to their congregations on public health topics on Sunday, May 9. The interest manifested by the ministers in this undertaking is very encouraging and their generous cooperation with the medical profession will open many avenues hitherto closed for the instruction of the people in modern methods of controlling diseases and the precautions the people can raise to protect themselves and the community from disease invasion.

Following is the list of churches and speakers:

Copeland Baptist, 8:00 p. m., T. F. Lockwood, M.D.; "Superstitions; Maternal Impressions and Other Health Items."

Wyatt Park Baptist, 11:00 a. m., Woodson Moss, M.D.; "Preventive Medicine."

First Christian, 10:45 a. m., Jabez N. Jackson, M.D.; "Christian Responsibility to the Problems of Physical Welfare."

First Congregational, 7:30 p. m., G. Wilse Robinson, M.D.; "Fear and Anxiety a Cause of Mental and Physical Disabilities."

First English Lutheran, 10:45 a. m., A. W. McAlister, M.D.; "The Value of a Doctor."

First English Lutheran, 8:00 p. m., R. Emmet Kane, M.D.; "Medicine and the Moral Law."

Zion's Evangelical, 10:30 a. m., H. J. Jurgens, M.D.; "Teamwork in Health Matters."

First Methodist Episcopal, 8:00 p. m., E. W. Schauffler, M.D.; "Pulmonary Tuberculosis."

Francis Street Methodist, 10:45 a. m., Llewellyn Sale, M.D.; "Medical Social Service."

Hundley Methodist, South, 11:00 a. m., C. H. Neilson, M.D.; "The Preservation of Health."

Hyde Park Methodist, 8:00 p. m., E. H. Miller, M.D.; "Care of Children in School."

Olive Street Methodist, 7:30 p. m., R. M. Funkhouser, M.D.; "Relation of Eugenics and Social Diseases."

Grace Methodist Episcopal, 7:30 p. m., Spence Redman, M.D.; "The Conservation of Human Life."

Wesley Methodist Episcopal, 7:30 p. m., Edwin H. Schorer, M. D.; "Diseases of Children."

St. Paul Methodist, 8:00 p. m., F. H. Matthews, M.D.; "Health and Morals."

Faith Presbyterian, 8:00 p. m., N. P. Wood, M.D.; "Better Living."

First United Presbyterian, 11:00 a. m., H. C. Shuttee, M.D.; "Preventive Medicine."

Second Presbyterian, 11:00 a. m., J. B. Wright, M.D.; "How to Live One Hundred Years."

Westminster Presbyterian Church, 8:00 p. m., G. H. Hoxie, M.D.; "The Laws of Health."

First Reformed Church, 11:00 a. m., Frank B. Hiller, M.D.; "The Visiting Nurse as a Health Factor."

ments for the physicians and their wives and of such a nature that all will be pleased in the hours of relaxation from the scientific work. The Commerce Club made a generous contribution to the entertainment fund which was supplemented handsomely by the members of the County Society thus placing in the hands of Dr. Good and his associates sufficient money to amply provide for their contemplated plans.

The city of St. Joseph is an interesting city, of large commercial importance with bank transactions for 1914 of \$2,070,391,307. It is redolent with the savor of Indian days, the forty-niners, the pony express, the French trader and the sturdy American pioneer. Its hospitality is proverbial.

The profession of St. Joseph is ready to extend every courtesy to their fellow members of the State Medical Association and hope to see the largest attendance at the St. Joseph Meeting in the history of the Association.

J. F. OWENS,

President Buchanan County Medical Society.

DANIEL MORTON,

Chairman General Committee of Arrangements.

HO! FOR THE ST. JOSEPH MEETING!

The Buchanan County Medical Society extends a pressing invitation to the members of the State Medical Association to attend the annual meeting at St. Joseph, May 10, 11, 12. The scientific program speaks for itself. In addition the Health Sunday Program is a novel feature and promises to push forward local public sentiment in favor of public health.

The arrangements for meeting places have been made by Dr. Floyd Spencer's committee and the Scottish Rite Cathedral has been secured. It is adjacent to the hotel district, is a splendid structure and will house the meetings in an admirable manner. There is an abundance of committee rooms, splendid registration quarters and an ideal auditorium perfectly equipped with lantern facilities. The commercial exhibits will be cared for in a room as large as the auditorium and on the floor below the auditorium. This arrangement will entirely do away with the interference with the reading of papers, so annoying at some former meetings.

All hotel arrangements have been amply provided for by Dr. C. R. Woodson's Committee on Hotels. There are no better hotels in America than those of St. Joseph.

The social features of the meeting are in the hands of the Committee on Social Entertainment, of which Dr. C. A. Good is chairman. This committee has arranged for entertain-

DUTIES OF CENSORS

One of the most important committees of the County Societies is the Board of Censors. We have seen indications from time to time that the members of this committee in some counties were somewhat in doubt about the methods they should pursue when matters were referred to them for investigation and report. This uncertainty has been most pronounced when the censors were called upon to pass on the eligibility of applicants for membership.

In this issue we publish an article by Dr. Scott P. Child of Kansas City, entitled "The Functions of the Board of Censors." This paper should be read by all members as it touches on other phases of professional life which should be clearly understood so that harmony and unity may prevail not only in our relations with each other but also with the public.

COMMITTEES AT ST. JOSEPH FOR THE STATE ASSOCIATION MEETING, MAY 10, 11, 12

GENERAL COMMITTEE ON ARRANGEMENTS:

Daniel Morton, Chairman; C. R. Woodson, H. R. Forgrave, Floyd Spencer, O. G. Gleaves, W. T. Elam, John M. Doyle, C. A. Good, Herbert Lee, A. B. McGlothlan.

SUB-COMMITTEE ON HOTELS: C. R. Woodson, Chairman; W. T. Elam, O. G. Gleaves.

SUB-COMMITTEE ON MEETING PLACES: Floyd Spencer, Chairman; John M. Doyle, C. A. Good.

SUB-COMMITTEE ON SOCIAL ENTERTAINMENT: C. A. Good, Chairman; John M. Doyle, J. J. Bansback, J. W. Ferguson, W. L. Kenney.

VOTE ON THE CHIROPRACTIC BILL

Last month we published the vote of the representatives on the motion to engross the optometry bill (H. B. 762) which failed to carry by the close vote of 59 in favor and 63 against the motion. Below we give the vote of the representatives on the chiropractic bill (H. B. 586) which passed the house. It never reached the senate.

County.	Name	Vote
Adair	C. M. Wilcox	No
Andrew	J. P. Cooper	No
Atchison	Clark A. McColl	Absent
Audrain	E. A. Shannon	Yes
Barry	J. F. Chastain	Yes
Barton	E. M. Connor	Yes
Bates	James N. Sharp	Yes
Benton	Robt. W. Hedrick	Yes
Bollinger	C. J. Sharrock	Yes
Boone	Wm. H. Sapp	No
Buchanan—		
1st District	Philip McCollum	Yes
2d District	Frank J. Staedtler	No
3d District	Jacob L. Bretz	Yes
4th District	Jack D. Robinson	Yes
Butler	Almon Ing	Yes
Caldwell	J. A. Waterman	No
Callaway	H. S. Houf	Yes
Camden	John A. Floyd	Absent
Cape Girardeau	Harry W. Bridges	Yes
Carroll	Charles S. Wright	Yes
Carter	W. F. Frazier	No
Cass	Charles S. Nelson	Yes
Cedar	James N. Jeffries	Absent
Chariton	R. T. Morehead	No
Christian	W. T. Holbert	Yes
Clark	Frank M. Harr	Yes
Clay	B. T. Gordon	No
Clinton	T. L. Wiley	Yes
Cole	A. T. Dumm	No
Cooper	L. M. Cordry	Yes
Crawford	L. H. Lewis	Yes
Dade	Joseph W. Hankins	Yes
Dallas	John H. McArron	Yes
Daviess	Floyd S. Tuggle	No
DeKalb	Edw. F. Cornelius	No
Dent	John H. Welch	No
Douglas	I. T. Curry	Absent
Dunklin	James A. Bradley	No
Franklin	Fred H. Kasman	Yes
Gasconade	W. L. Langenberg	No
Gentry	I. W. McKnight	No
Greene—		
1st District	Wash. Adams	No
2d District	F. T. Stockard	No
Grundy	M. Eugene Humphreys	No
Harrison	W. E. Land	Yes
Henry	Ross E. Feaster	No
Hickory	Moses N. Neihardt	Yes
Holt	Wm. R. Swope	Yes
Howard	R. S. Walton	Yes
Howell	Joseph A. Myers	No
Iron	C. P. Damron	No
Jackson—		
1st District	Thomas H. Knight	No
2d District	Frank C. Wilkinson	No
3d District	William Hicks	Yes
4th District	Eugene F. Sullivan	Absent
5th District	John H. Taylor	Yes
6th District	D. M. Keenan	No
Jasper—		
1st District	H. L. Shannon	Yes
2d District	Thomas J. Roney	Yes
3d District	Frank H. Lee	Yes
Jefferson	George C. Bond	No
Johnson	William A. Stephens	No
Knox	Alfred Pettit	Yes
Laclede	Marion D. Allen	Yes
Lafayette	N. M. Houx	Yes
Lawrence	P. H. Barris	No
Lewis	Noah W. Simpson	No
Lincoln	Josiah Whiteside	Yes
Linn	Charles Edw. Kelley	Absent
Livingston	A. T. Weatherby	No
McDonald	W. O. Dixon	Yes
Macon	Joshua C. Bradley	Yes
Madison	William A. Engel	No
Maries	Frank M. Carrington	No
Marion	Madison C. Schofield	No
Mercer	I. H. Somerville	Yes
Miller	John W. Conner	No
Mississippi	A. R. Boone	No
Moniteau	Arcus L. Douglas	Absent
Monroe	James P. Boyd	Absent
Montgomery	H. W. Kamp	Yes
Morgan	Jacob W. Kauffman	Yes
New Madrid	O. A. Cook	No
Newton	George A. Pogue	Yes
Nodaway	Charles Hyslop	No
Oregon	Mather C. Culp	No
Osage	Jas. Robinson	Absent
Ozark	James J. Kyle	Yes
Pemiscot	Von Mayes	No
Perry	Anthony R. Lukefahr	Yes
Pettis	C. W. McAninch	Yes
Phelps	Frank H. Farris	No
Pike	R. L. Dawson	Yes
Platte	David A. Chesnut	Yes
Polk	Chas. U. Becker	Yes
Pulaski	Albert L. Crumley	Yes
Putnam	T. B. Valentine	Yes
Ralls	Drake Watson	No
Randolph	Rich R. Correll	Absent
Ray	Thomas B. Cook	No
Reynolds	James M. Mooney	Yes
Ripley	I. F. Fulbright	Yes
St. Charles	R. C. Haenssler	Yes
St. Clair	Louis E. Browning	Yes
St. Francois	Arthur P. Gray	No
Ste. Genevieve	William R. Wilder	No
St. Louis—		
1st District	James W. Settle	Yes
2d District	Harry E. Sprague	Yes
Saline	Joshua Barbee	No
Schuyler	Winfred Melvin	No
Scotland	Martin Miller	Yes
Scott	Jos. Dolphin Bowman	Yes
Shannon	F. M. Jones	Yes
Shelby	Wilson L. Shouse	Yes
Stoddard	F. M. Norman	No
Stone	E. P. Gracey	Yes
Sullivan	Joe Nickell	No
Taney	Guy B. Mitchell	No
Texas	I. R. Womack	No
Vernon	I. A. Jackson	Yes
Warren	Thomas B. Hodges	Yes
Washington	William H. Evens	No
Wayne	I. M. Bowers	No
Webster	John V. Atteberry	Absent
Worth	W. W. Aldrich	Yes
Wright	Sherman Griffith	No
St. Louis City—		
1st District	Philip W. Chaney	Yes
1st District	Henry C. Erman	Yes
1st District	Claude O. Pearce	Yes
2d District	William F. Depelheuer	Yes
2d District	Anthony J. Laux	No
2d District	Louis E. Trieseler	Yes
3d District	John J. Moroney	Yes
3d District	Charles Rizzo	Absent
3d District	Felix E. McAdams	No
4th District	Frank O. Bittner	No
4th District	Henry Kraemer	Yes
4th District	John C. Robertson	Yes
5th District	R. Frank	Yes
5th District	Albert Rabenneck	Yes
6th District	Clarence H. King	No
6th District	Jones H. Parker	No
Total		Yes 74
Total		No 56
Absent		12
Total vote		142

SURGEONS' CLUB OF ST. LOUIS

In this issue we begin the publication of the proceedings of the Surgeons' Club of St. Louis. The membership is limited to those members of the Association in St. Louis who are doing surgery exclusively or who work principally in this branch of medicine.

HOTELS AND RATES AT ST. JOSEPH

HOTEL ROBIDOUX, Headquarters, European: Room without bath, one person \$1.50 and up; room without bath, two people \$2.50 and up; room with bath one person \$2.50 and up; two in room \$4.00 and up.

ST. FRANCIS HOTEL, European: Room without bath, one person \$1.00; two in room \$1.50; Room without bath, two beds \$1.00 each person; Room with bath, one person \$2.00; room with bath, two beds, two persons, \$1.50 each, four persons \$1.00 each; extra good rooms with bath, \$2.50.

HOTEL METROPOLE, European: Room with bath, \$1.00 each person; Room with running water, 75c each person; Room without running water, 50c each person. Not required to double unless satisfactory with parties occupying room.

In addition to this list the Hotel Committee has a list of other hotels which will offer rooms at very moderate prices. A bureau of information in the Commerce Club is prepared to furnish a list of residences where rooms may be had at moderate prices for those who prefer to stop at a private residence. Inquiries should be addressed to Dr. C. R. Woodson, St. Joseph, Chairman Hotel Committee.

EXHIBITORS

A. S. Aloe Company, Surgical Instruments.
O. H. Gerry Company, Oculists' Supplies.
Hettinger Brothers, Surgical Instruments.
Horlick's Malted Milk Company, Malted Milk.
Hynson, Westcott & Company, Pharmaceuticals.
Merry Optical Company, Oculists' supplies.
C. V. Mosby Company, Medical Books.
Physicians' Supply Company, Physicians' Supplies and Surgical Instruments.
W. B. Saunders Company, Medical Books.
Sharp and Smith, Surgical Instruments.
Taylor Instrument Company, Sphygmomanometer.
Weder Manufacturing Company, Nose and Throat Instruments.
Welch Grape Juice Company, Grape Juice.

BRING YOUR POCKET CARD.

OBITUARY

W. L. LAMASTER, M.D.

Dr. W. L. Lamaster, a graduate of University of Louisville Medical Department, 1883, died at his home in Ashland, Mo., March 23, 1915, aged 60 years.

Z. T. KNIGHT, M.D.

Dr. Z. T. Knight, a graduate of Keokuk Medical College, 1907, and a member of the medical staff of the Fulton State Hospital, died March 21, 1915, following an operation for appendicitis, aged 34. He was a member of the Callaway County Medical Society and the Missouri State Medical Association.

HUGO C. KLUEBER, M.D.

Dr. H. C. Klueber of California, Mo., a graduate of Konigliche, Julius-Maximilians Universität, Würzburg, Bavaria, 1863, died at his home following an illness of five months, aged 75. Dr. Klueber was a member of the Moniteau County Medical Society and the Missouri State Medical Association.

JOHN G. FRENCH, M.D.

Dr. John G. French, a graduate of the University of Missouri, Columbia, died at Parker Memorial Hospital, Columbia, March 22, 1915, aged 65. Dr. French had been a resident of St. Louis for a number of years, but returned to Columbia for a visit and while there submitted to an operation. He had retired from practice.

HENRY J. RUYLE, M.D.

Dr. Henry J. Ruyle, a graduate of Louisville and Hospital Medical College, 1893, died in St. John's Hospital, Springfield, following a prolonged illness, March 22, 1915. Dr. Ruyle was a member of the Greene County Medical Society and the Missouri State Medical Association and was a Fellow of the American Medical Association. He was 44 years of age.

THOMAS BENTON ROSS, M.D.

Dr. T. B. Ross of Slater, a graduate of Washington University Medical School, 1866, died at his home after a brief illness, aged 81. He was one of Saline County's pioneer physicians, having practiced at Slater thirty years. He was born in Collinsville, Ind. When he was 2 years of age his family moved to Howard County, where he received his education and later attended medical schools at St. Louis and Philadelphia. For several years he practiced in Kansas. He was widely known and earned the confidence, esteem and affection of a large circle of friends. During the Civil War he served as lieutenant in the Ninth Missouri Cavalry. He was a great-great-nephew of Betsy Ross, maker of the first American flag.

DANIEL W. McGEE, M.D.

Dr. Daniel W. McGee, aged 58 years, whose home was in Mountain Grove, died in a hospital at Springfield, March 8, 1915, from a heart complication following an operation for strangulation of the intestines. He was a graduate of the Missouri Medical College, St. Louis, 1882, and a member of the Wright County Medical Society and the Missouri State Medical Association. He was a native of Monroe County and practiced at Santa Fe, Granville and Paris. He was a man of many kindly and lovable qualities and had a host of friends. He is survived by his wife and six children.

IN MEMORIAM*

WILLIAM GRANT MOORE, M.D.

To the St. Louis Medical Society:

Your Committee on Necrology begs leave to submit a tribute to the memory of the late Dr. William G. Moore, former President of this Society; and in doing so feels that it but registers in its feeble way the sentiments of admiration, affection and respect in which he was held by every member thereof.

We do not feel called on to introduce the man or laud his work. The former was well known; the latter we leave to others to attest. Thoroughly equipped by a preliminary and medical education under the best of tutelage, he sprang at once, armed cap-a-pie, into the arena of his chosen profession, and in a singularly short time attained the recognition and success that was his due.

Whether it was on the rostrum or in the lecture room, at the bedside of his patient or on the street, everywhere and at all times his strong personality impressed itself on those who came in contact with him, exuding as it were a halo of kindness and optimism, as beneficent as it was inspiring. *Suaviter in modo, fortiter in re* should be his epitaph as true as it is befitting.

As a strong advocate of organized medicine this body owes him a debt of gratitude. His loyal and unremitting devotion to this Society during a long and active career was invaluable to it in the accomplishment of its purposes and ideals. Ethical to a degree, with the ethics which spring from a mind endowed and by practice habituated to right reason and unswerving rectitude, he was an uncompromising foe to sham and pretense and was quick to detect them in all their protean phases.

Of malice he had none, of vindictiveness none. Strong in his convictions, unrelenting in the prosecution of his duty as he conceived it

to be, he worked without fear and without favor and with a courage as rare as it was unflinching.

Constant, loyal, true, kindly and considerate in all his relations of life, he engendered a rare affection in all who came within his sphere. But above all, beyond all, through all, essentially and innately, he bore without reproach, unsullied and untarnished by thought, word or deed, the grand old name of gentleman.



CAT.

WILLIAM GRANT MOORE, M.D.

BORN 1853; DIED 1914

President, Missouri State Medical Association, 1903-04

BY DR. JOHN T. LAREW

When Dr. William Grant Moore answered the "last summons" January 28, not only the medical profession but the entire community suffered the shock of a personal loss.

His was a rich heritage by birth. William Moore, of Revolutionary fame, and William Grant, who received from Patrick Henry a warrant for lands in Kentucky in consideration for military service rendered, were his near ancestors, while his great-grandmother was a sister of Daniel Boone.

Born in Fayette County, Kentucky, sixty-two years ago, he received his early education in the common schools and the State University, then completed his academic studies at

* Read before the St. Louis Medical Society, Feb. 27, 1915.

Washington and Lee University. His medical education was begun at the University of Louisville and completed at Jefferson Medical College, Philadelphia, where he received his degree of Doctor of Medicine in 1875. In the fall of the same year he came to St. Louis where, until two weeks prior to his death, he was actively engaged in the practice of his profession, and through all these years was an influence for good in the life of the city as well as in the lives of the many to whom he ministered, for he enjoyed a large and lucrative practice.

Equipped by nature and by education, Dr. Moore was eminently fitted to attain the place of esteem and honor accorded him by his professional brethren. In 1879 he was appointed to the chair of histology and materia medica in the College of Physicians and Surgeons. In 1887 he became one of the founders of the Beaumont Hospital Medical College, and occupied the chair of the principles and practice of medicine and clinical medicine until the consolidation of that college with the Marion-Sims College of Medicine and St. Louis University, in which consolidated institution he continued in the same chair until the time of his death. He was vice-dean for both institutions.

For many years he was one of the most active members of the organized profession, serving as President of the Missouri State Medical Association, president of the St. Louis Medical Society, president of the St. Louis Obstetrical Society and vice president of the American Medical Association.

However, his professional activities did not bar an interest in other phases of the city's life, and for six years he was an efficient member of the board of education. He was an able and eloquent speaker and the charm of his after-dinner speeches made memorable many gatherings. He was without a peer as a story teller and especially delighted to relate the doings of "Uncle Stamps," an eccentric character of his youth back in "Old Kentucky." He was a lover of his country—a patriotic man—but cherished a particular devotion to the state that nurtured him to manhood and bears in her bosom so many that were near and dear to him. Inspired by this sentiment, he was one of the organizers of the Kentucky Society of St. Louis and was perhaps its most enthusiastic member.

But neither by his professional attainment and skill nor by his participation in civic affairs will he best be remembered, but by "that best part of a good man's life" revealed by the intimate touch of friend to friend. With strength of intellect and strength of character he com-

bined the tenderest of hearts. He was a friend to the poor and distressed, ever ready to give of his skill, his means and his good cheer. Just and courageous, gentle and sympathetic, without malice and without guile, he was the embodiment of true and generous manhood.

In 1878 Dr. Moore married Miss Etolia Tevis North, daughter of William North, a prominent wholesale merchant of St. Louis, and is survived by his wife and three children to whom he was bound by ties of unusual tenderness.

The sympathy of his associates in the profession and of all to whom he ministered goes out to the family in their great bereavement, which may, we trust, be tempered by the conscious fact that he left them a heritage more precious than gold—the record of a pure, simple, Christian life, dutiful to God and helpful to mankind.

BY DR. A. R. KIEFFER

It is with a great deal of embarrassment that I undertake to say a few words about our friend, Dr. Moore. This embarrassment is made greater because every member of this audience was personally acquainted with Dr. Moore and has too lofty a conception of his worth, ability and character to be benefited by any remarks of mine.

Dr. Moore's great talent, his oratorical ability, his willingness to work, always brought him into association with the stronger minds in the medical profession and the public. He was the popular idol of the medical profession of St. Louis and the state of Missouri. He was equally as popular in every social and civic organization of which he was a member. Feted as he was, a weaker man would have become vain and inclined to despise commonplace men and things. He hated monopoly and arbitrary power and despised aristocracy. He sympathized with the masses. Everybody who was closely and intimately associated with Dr. Moore will readily appreciate this statement. Dr. Moore had a great sympathy for his friends, much more, probably, than that of which most of us are aware. I recollect the tender sympathy that he expressed to me after a death in my family. I little expected it from such a busy man, yet he took time to write such a letter. The welfare of his friends was uppermost in his great mind. Probably others of you have received similar notes.

I have been selected, I believe, to speak particularly on the subject of organized medicine. As has been stated by the chairman of the Committee on Necrology, Dr. Moore was a strong advocate of organized medicine. He

was a strong advocate of ethics. I suppose that one of the most important acts of his life along this line grew out of an increasing dislike which he had for the impertinence and commercialism of the proprietary medicine manufacturers. This matter grew on his mind and he so feared the commercialism of the humane spirit of the medical profession that he wrote a paper on the subject. This paper was read at the meeting of the State Medical Association ten years ago. The State Association passed a resolution requesting their delegates to incorporate the substance of this paper in a resolution to be presented to the House of Delegates of the American Medical Association at their meeting in Portland, Ore.

Dr. Dorsett and myself were the delegates to the American Medical Association representing the state of Missouri, and it devolved on us to frame this resolution, which was to embody the substance of the paper read by Dr. Moore. We did so and presented it to the House of Delegates of the American Medical Association. It was taken up by that body and started a wave against the commercialization of our profession which rolled all over the land. It was championed by our best journals everywhere and undoubtedly did a great deal of good.

Dr. Moore was a man peculiarly given to standing by his friends. He could overlook the weaknesses of his friends. I think this was the strongest feature in Dr. Moore's character. I do not think any one ever swerved Dr. Moore from a friendship. I believe he wore no man's collar. I believe that he belonged to no clique in organized medicine. He was a free lance. You remember that Dr. Moore would surprise us a little at times by remarks which seemed to us pointed and caustic involving some one with whom probably he was personally acquainted, some one prominent in the profession, but he never hesitated when he saw a need to speak.

Dr. Moore occupies a position in the minds of this audience so elevated and so refined that it would be idle for me to attempt to say what would in any way influence you.

BY HON. ROBERT KERN

Mr. President, and Members of the St. Louis Medical Society:

If you will permit me in behalf of the Kentucky Society, I should like to return to you its sincere thanks for the compliment you have paid it in inviting the society, through me, to participate in the memorial service this evening.

Some twenty years ago or more, a number of us Kentuckians, with that good-fellowship

which belongs to the old state and which has made it famous, gathered in a little room and organized the Kentucky Society. Principal among the factors in that organization was Dr. Moore, and from that hour to the moment of his death he was as absolutely loyal to it as he was to everything else with which he came in contact in life; and although that society numbers in its membership men that are distinguished in national affairs, United States senators, congressmen, men in the business world who count their wealth by millions and their influence accordingly, I believe that I voice the sentiment of that society when I say that the man of all men who belong to it or have belonged to it in that long period, the man of all men beloved and looked most to was Dr. Moore.

Born in "Old Kentucky," coming by descent from the man who has made it so famous, he brought to this state the great characteristics of the people of that state, and—I say it without any reflection on any other part of the great universe—I do not believe a more warm-hearted, cordial people exist anywhere than can be found in that old state. Here and there, as we wander over this world, we find the characteristics of this and that community. It is strange, as I go back to my old Kentucky home in the blue-grass region after an absence of forty years from the day that I left it, to seem to find the same kind, cordial good-feeling that I found there when I was a boy; and if I were called on to name the one man of all the men that I have met in my rambles over this world, and I have been over most of it, if I were called on to name the one man who carried everywhere the genial sunshine, the glad shake of the hand, the sympathetic heart, I would certainly name Dr. Moore above any and all that I know.

You men of the medical profession, of all professions the most useful, know this. The more I study it, the more I stand amazed that any man would ever become a doctor, because you are habitually familiar with the sad side of life, you are where your sympathies are continually drawn upon, you are where the most consummate skill is required, you are in the hands of the greatest despot of all the professions, and you are the men who knew Dr. Moore better even than I knew him and so are the best qualified to judge of his merits in the profession. I heard tonight the statement of your President in regard to the many and various medical societies to which Dr. Moore belonged. As I have traveled over this world, I have heard his name mentioned from the humblest hamlet to the greatest city and

it requires no one to tell me that he brought to the practice of his profession a consummate skill through which he saved human life and alleviated human suffering to an extent of which any man in the practice of his profession might be proud.

But it is more as the genial friend, it is more as a man whom to meet was to love, it is more as a man who delighted to lift the burden from off the back, to throw the flower in the thorny path, to throw a ray of sunshine wherever he went, it is more in this way that I have known him, and if the Kentucky Society can feel that the loss of one man is above others it can feel that in the loss of Dr. Moore.

So, gentlemen, I do not wonder that you are here; I do not wonder at the sadness that is in your faces, for I know that you all love him.

I have had much experience of the wonderful geniality and tenderness of his character. When a few years ago we went at the call of the old Kentucky reunion and spent several days in Louisville with thousands and thousands of old Kentuckians who had wandered away from their homes, some coming from even as far as China, when I watched this genial spirit moving among these people, it was to see that whether he knew them or not it made no difference, both hands were out, the genial face and the warm heart were for everybody. I honestly believe that of the thousands there Dr. Moore shook hands with nearly all of them.

I can never forget his eloquence. It has been my good fortune to hear the greatest orators of this country and some that other countries produced, it has been my good fortune to be present upon occasions where the eloquence was the inspiration of the hour, and as I recall for twenty years the banquets that we have had in the Kentucky Society, the meetings of the old family there, I can truly say that I have never heard a more eloquent speaker. Seldom is there a man as eloquent as Dr. Moore, and that is a great tribute to a profession that has not spent its time, as the legal profession does, in "jaw work," as we call it among ourselves, in talk.

Gentlemen, I can only thank you again in behalf of the Kentucky Society. I can only thank you myself for the compliment you have paid our society in me by the invitation to be here tonight and to drop a rose on the grave of a man who must have heard that plaudit of the angels saying, "Well done, thou good and faithful servant, enter thou into the joys of the eternal world."

MEMORIAL SERVICES IN HONOR OF DR. M. H. POST

At the Missouri School for the Blind, St. Louis,
March 7, 1915

Organ Prelude, "Cavatina".....*Raff*
Chorus, "He's Watching Over Israel,"...*Mendelssohn*
School Choir
"Dr. Post and the Missouri School for the Blind"
..... Mr. Green
"What He Did for Me".....
.....*Catherine Lyberger and Louis Pate*
Quartet, "Crossing the Bar".....*Webster*
Geneva Koenker, Lena Hill, Olin Jayne,
Horace White
"Memorial of the Board of Managers".....
.....*Hon. Martin J. Collins, President*
"Dr. Post as a Physician".....*Dr. W. E. Shahan*
"Dr. Post as a Christian".....*Rev. Horace F. Holton*
Tribute of silence
Solo, "Rest in the Lord".....*Mendelssohn*
Miss Edith Cook
Quartet, "Traumerei".....*Schumann*
Violin, Mr. Richard Richter; Cello, Mr. Louis
Richter; Piano, Miss Hamilton; Organ,
Miss Cook

Benediction

Organ Postlude, "Largo".....*Handel*

DR. POST AND THE MISSOURI SCHOOL FOR THE BLIND—

By S. M. GREEN, Superintendent

As travelers pass along the dusty highway they find the shade of the wayside tree comforting and refreshing, but it is not until at some turn in the road they look back and see it in its hillside perspective that they realize the full symmetry and bloom of the majestic tree, which they thought they fully appreciated while resting in its shelter.

We have come to that turn in the road which allows us more fully to appreciate the beauty and strength of character of him who has gone a little further on, and we get new glimpses of one whose life and work has been interwoven so many years with the history of our school. It seems most eminently fitting that in the scene of his labor and the place in which he was so much interested that we pause for a while to think about one who meant so much to us all.

Dr. Post became a member of the Board of Managers twenty-six years ago, having been appointed by Gov. D. R. Francis in 1888. The law provides that the oculist of the board shall give his services without compensation. This Dr. Post did, giving freely in unstinted measure much time and close attention to improving the sight of the pupils of the school. He established a clinic where regular inspection was followed by daily treatment administered by himself or assistants. Some are here to-day, many more have been gone these years out from the shelter of the school in the busy activities of life who have had pain relieved and sight restored; some to my personal knowledge have followed for a livelihood occupations that would have been impossible without the sight he gave them. Not only in this state, but scattered over the United States, from Maine to California, from Michigan to the Gulf are the grateful hearts of others who praise his skill and love him for his kindness. The exquisite tenderness with which he soothed a suffering child and the implicit faith of those in pain who trusted to his delicate skill always awoke the admiration of those who witnessed his ministrations.

But he was more than the oculist of the school. He was the wise counselor of us all, with well balanced judgment and sane views on questions arising in the administration of the school. He was for progress and growth, for enlargement of scope and equipment, his first thought was "How will it help the pupils to have extended advantages suggested"? He was a great stickler for thoroughness of training. I have heard him often say, "We must give our pupils the best always," and whether it were new high school studies or gymnasium apparatus, a new broom machine or a player piano he approved and helped make it possible to have them. He was particularly gratified when pupils showed their appreciation of their opportunities by the excellent work they did, as well as by their words of praise for the school. Every officer and teacher had the fullest confidence in Dr. Post and felt the greatest joy in meriting his approval.

For he was not only the skillful oculist seeking to assuage pain and give sight and the wise counselor helping to determine wise policies of management, but he was the friend of those who knew him—a good friend, stanch, hearty and loyal. If he believed in a man he believed in him thoroughly and he sounded his convictions in no uncertain note where a matter of principle was at stake.

He gave what has been beautifully called his "soul sunshine" which he radiated alike on all who walked in the shadows, whether they were shadows of too much sorrow or shadows for lack of the sun, giving forth the cheer which was so much a part of his big heart and soul. There are those who can many times thank him for the cheer he brought to their saddened and oppressed spirits.

He has been taken from us by that Friend who leads us into the upper room, but he lives again in our grateful memories of his goodness, in the spirit he put into the hearts of those who knew him, in their scorn of what is base, in the enthusiasm for the best, in the strong belief that good is always mightier than evil and will prevail.

"To so live in hearts we leave behind is not to die." The facts themselves in simple recital are his most eloquent witnesses as they come from the lips of those whom he has helped—those who feel it a precious privilege to tell you to-day what he did for them.

MEMORIAL ADDRESS—COL. MARTIN J. COLLINS, President of the Board

It seems to me that real success is measured by the impression made by a man on the respect and affection of his associates. A man who has so lived as to die respected, and above all loved by those with whom he has lived and labored has attained, to my mind, the most satisfactory and perfect success.

For twenty-four years Dr. Post was a member of the board of this school, and it was my great privilege to have the honor of serving with him the last several years. Never did I meet a man who so well measured up to the full meaning of the term "man" as did Dr. Post. Always good natured, kind and happy, he loved his work, and whenever a problem confronted the school or a policy had to be decided on, all the board members instinctively turned to Dr. Post for his advice, his counsel and his guidance.

His heart and soul were always in the work of this school. He was to the pupils, the teachers and the officers at once a father and a big brother combined, and was as tenderly concerned about the welfare and happiness of this school as a mother is of her first born babe.

The strong bronze memorial on the wall just outside that door will stand as a bright badge of honor to his memory as long as this school shall endure. Oh, how splendidly appropriate is the sentiment there expressed—"He gave us light." I speak for every

member of the board, yea, and all the past board members who have had the honor to serve with Dr. Post, when I say he gave us light not only to see, but to know intimately his beautiful character; his charitable heart; his tender affection for his fellows; his cheerful and kindly nature and his constant devotion to self-imposed duty.

If my five sons could, during their lives, have the privilege and honor their father had of meeting and associating with such a beautiful character as our beloved Dr. Post, then indeed would I feel they had received one of God's choicest blessings.

The Board of Governors adopted the following memorial at one of their meetings shortly after the death of Dr. Post:

"For twenty-four years Dr. Post was the oculist for the Missouri School for the Blind, giving freely, without recompense, his valuable professional skill and services in improving the eyesight and lessening the pain of the sightless wards of the state, many of whom with hearts full of gratitude for his sympathetic care, can say, 'Whereas I was blind, now I see.'

"He won the lasting gratitude of many of the sightless not only by the careful attention he gave to individual cases, but by his wise use of funds placed at his disposal by generous friends to provide hospital care for those who required surgical and medical attention which the school was not able to furnish.

"He was ever interested in the problems of the education of the blind, and in the special progress of the Missouri School for the Blind, whose officials, teachers and pupils deeply mourn the taking off of so warm-hearted a friend and so fine a character.

"His long experience in his official capacity made his judgment of great value to his fellow board members, while his genial optimism and appreciation of the highest standards made co-operation with him a delightful privilege.

"His associates on the board feel a sense of personal loss in his passing, and desire to express to his family the deepest sympathy in their irreparable loss."

In conclusion, I want to say that Dr. Post was to our board, to our school and to everyone who came in contact with him a benediction, a blessing, and inspiration, and his work, his example and his memory will continue to bless and inspire all those who may serve on future boards.

"None knew him but to love him,
None named him but to praise."

DR. POST, THE PHYSICIAN—By DR. W. E. SHAHAN

"Knowledge comes, but wisdom lingers, and
I linger on the shore;
And the individual withers, and the world
Is more and more."

This, a favorite quotation from a favorite poem of Dr. Post's, gives some intimate insight into his character as a truly great physician. A raw assistant, viewing for the first time his preparation for an important operation, was often amazed at the apparently trivial questions with which he kept his patient busily engaged. Questions about his family, his horses, business, church, politics, anything with which his mind could be diverted, were actively put to him. Presently, quietly, without emotion, without excitement, the critical stage of the operation would be safely passed. Later in his experience the assistant would begin to perceive that behind a veil of apparently small talk stood the great physician, equipped not only with a high degree of knowledge for the care of his patient's ailment, but more than that, with wisdom for the care of his patient.

Such a combination of technical skill, medical knowledge, poise of temperament, and high moral and professional ideal, as characterized Dr. Post is rarely found in any one man. Any patient, however poor or friendless, however rich or powerful, consulting him, could feel that he was in absolutely safe hands. He treated them all with the same tireless patience, energy, careful skill and sympathy as he would have treated any member of his own family, giving each of them a part of himself. His best friends were his patients, and felt secure in his care. Those who had the good fortune to be his assistants, look back with pleasure on the profitable years spent with him. He was not only an efficient teacher but a kindly and sympathetic master. He guided his assistants firmly, piloting them clear of mistakes and blunders, never humiliating them in the presence of his patients, never accentuating his own greatness at the expense of those of less ability or less experience. His assistants and associates always consulted him freely and fully in complete confidence of getting real help in a quietly but vigorously effective way.

He was a physician who kept abreast of the times to the day of his death, but he was a man of well balanced judgment, never being carried away by unsubstantial fads and fancies or over enthusiastic reports of unusual methods. No patient of his ever suffered as a result of ill advised experiment. He knew very well that 90 per cent. of all experiments result in failure, and when he adopted a new method of treatment it was quite certain to be among the 10 per cent. that are successful. This accounts partly for the very high average of successful results he had in his practice. He was essentially a clinician, culling from the scientific world the best that was in it, and giving his patients the benefit of it.

He was a physician of unfailing good humor, equipped with a fund of anecdote and gifted with repartee which he often used in his professional work with scientific accuracy and telling effect. Many a patient in deep gloom over real or imagined disaster has had his gloom dissipated and his strength saved for better purposes by an aptly put piece of pleasantry or droll bit of absurdity. As an instance, a high school girl in an atmosphere of tragic fear over thoughts of impending blindness, was suddenly surprised by the question: "Miss M. how do you pronounce the second day of the week, Toosday or Chuesday?" "Why," she said, "anybody would know it was Toosday." "Well," Dr. Post replied, "I always thought it was pronounced Monday." Saying which he left her laughing and thinking that if he could joke like that, perhaps her case was not so bad after all. She is still a useful, seeing citizen of St. Louis.

"And the individual withers, and the world is more and more."

The good which Dr. Post did in the medical profession did not die with him. His sons, his assistants, associates, and medical friends, have each received a part, and will pass it on to their descendants, and on to the end of time. The great Eye Hospital, which has been put within reach of Washington University, is evidence of his influence among his patients. During his life time wealthy patients, at his suggestion, provided funds for putting into hospitals and caring for patients unable to care for themselves. Patients have gone out from this school on such funds. After his death, one of these wealthy people died and provided in her will for a great Eye Hospital which will remain as much a monument to Dr. Post's initiative as it will a temple to her philanthropy.

He was a man of broad general and special education, and high professional standing. When he took his Bachelor's degree at Washington University in 1872, he was honor man of his class. After he had

taken his medical degree he served his term in the St. Louis City Hospital. He pursued his special studies on the eye under such great masters as Donders and Snellen in Utrecht, and Nettleship in London. He was on the staff of many hospitals and a member of many medical and scientific societies. At the time of his death he was Chairman of the American Ophthalmological Society, the highest honor of its kind in America.

The life that he lived was straightforward and upright in all its relations. When his time came to go he was ready. The heritage he left behind him is a rich one and "The world is more and more."

BRING YOUR POCKET CARD.

NEWS NOTES

L. R. WEIR was convicted in the circuit court at Plattsburg, April 5, and fined \$100, for practicing medicine without a license. The Clinton County Medical Society prosecuted the case.

DR. GEORGE C. MOSHER of Kansas City departed for southern Michigan where he will spend a few weeks. Dr. Mosher was operated on at the German Hospital recently but has now fully recovered.

DR. W. F. TRIMBLE and DR. E. H. WELCOME have established a hospital in Joplin where hospital facilities are much needed. The institution contains fourteen beds and is well equipped throughout.

THE Southeast Missouri Medical Association will hold its thirty-ninth annual meeting at Fredericktown, May 4, 5 and 6. Dr. C. A. Anthony, Fredericktown, is president; Dr. W. H. Barron, Mine La Motte, is secretary.

THE Southwest Missouri Medical Association met in semi-annual session at Springfield, April 29 and 30. Dr. R. M. Rogers, of Mansfield, is president; Dr. H. S. Hill, Springfield, is secretary.

DR. NORVELLE WALLACE SHARPE and DR. CHARLES L. KLENK, of St. Louis, attended the meeting of the Gasconade - Maries - Osage County Medical Society at Argyle, April 1. In the evening both gentlemen addressed the public session.

At a recent meeting of the Vernon County Medical Society resolutions were adopted requesting editors of newspapers not to use the name of any regular physician, hospital, sanitarium, or consultant who may be called from a distance, in reporting cases of sickness or accident, as this is not in keeping with the profession, and as such, is not news and may be of detriment to both people and physician.

ON April 1 ground was broken for a new Nurses' Home for the Washington University Training School for Nurses. The building will be five stories in height and of the same style of architecture as the hospitals of the Washington University group. It will contain individual rooms for eighty nurses; baths; recreation rooms and other modern conveniences. It is expected that the building will be completed by December 1.

ANYONE interested in a little deaf child can obtain free literature explaining approved methods of training deaf children from infancy to school age by writing to The Volta Bureau for the Increase and Diffusion of Knowledge Relating to the Deaf, 1601 Thirty-fifth St., N. W., Washington, D. C. This literature relates only to the training of little deaf children; not to medical treatment nor to the deafness that comes in later life. Age of child and other details are welcomed.

DR. GEORGE SMITH, formerly Associate Professor of Pathology of Washington University, took charge of the Barnard Free Skin and Cancer Hospital, April 1, as medical director of the hospital, and director of the Research Department. The Barnard Free Skin and Cancer Hospital has had a very successful career. All beds in this institution (forty-four) are free for the study and treatment of cancer and skin diseases. All the facilities afforded by the institution are entirely free to patients, therefore Dr. Smith enters on an enviable field for the study of cancer. As we announced before, the Endowment Fund has lately been largely increased, which will enable the institution to further its facilities for the study of cancer both from a clinical and a purely laboratory (research) standpoint.

THE Society for Physicians' Study Travels will have a tour to the Panama-Pacific Exposition and the meeting of the American Medical Association. The trip will consume thirty-seven days and cover 9,000 miles, visiting sixteen states. The train will be composed of Pullmans of the highest grade of equipment. The train will arrive in St. Louis on Monday, June 7, at 1:40 p. m. and leave that night at 9:06 for Kansas City and the west. The price for the trip from St. Louis and return to Chicago will be \$384 per person. This includes first-class round-trip ticket, including one Pullman berth, accommodations at the best hotels, all meals on trains and at hotels except at San Francisco, side trips and excursions, gratuities, etc. Those interested in obtaining further information concerning this attractive excursion should address Dr. Albert Bernheim, 1225 Spruce St., Philadelphia.

DURING March the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Radium Chemical Co.: Standard Radium Solution for Bathing. Standard Radium Solution for Drinking. Standard Radium Earth. Standard Radium Compress.

The Franco-American Ferment Co.: Lactobacilline preparations: The Lactobacilline preparations now being advertised direct to the public the Council has voted that their acceptance be rescinded and that these products be omitted from New and Nonofficial Remedies. A report explaining this action has been authorized for publication.

DURING April the following product has been accepted:

Knoll and Co.: Euresol pro Capillis.

THE excursion to the meeting of the American Medical Association convening in San Francisco, June 21-25, spoken of in our last issue and for which Dr. Gilliford B. Sweeny, of the First National Bank Building, Pittsburgh, Pa., is sponsor has been completely arranged for, no detail being omitted. Leaving St. Louis, June 15, the party will arrive in San Francisco in good time to take part in the deliberations of the Association. A conspicuous feature of the trip is thoughtfulness in providing for a rest for the excursionists at Colorado Springs, also at Salt Lake City. Discretion is being used in booking only such persons as are likely to be congenial. The rate which has been secured is particularly attractive when one considers the class of accommodations furnished. Those interested will do well to communicate with Dr. Sweeny at once, as bookings are being placed in the order in which they are received.

CONTINUOUS telephone service for physicians has been established at St. Louis by the Bittel-Leftwich Company. Their business—automobile supplies and repairing—requires day and night service, so they have established the telephone exchange and invite physicians to utilize their facilities for taking calls and messages in order that the physician can be immediately located. This sort of telephone convenience seems adaptable to many uses by physicians, as it will enable them to be in constant touch with their patients and families when away from their offices and homes. The plan is eminently practical and has been in successful operation in San Francisco and other cities for some time. The system can easily be made the instrument of unfair dealings with its subscribers, which may be one of the reasons why a similar undertaking met with failure

some time ago. Bittel-Leftwich have organized their exchange on a basis that will not permit improper handling of messages and the high standing of the firm and its record of honorable dealings with physicians in the past are sufficient guarantee that the services rendered by their telephone exchange will be above criticism. They will accept subscriptions to the service from reputable physicians only. Their advertisement appears on another page.

THE Seventh Pan-American Congress will meet in San Francisco, June 17-21, inclusive. It assembles pursuant to invitation of the president of the United States issued in accordance with an act of congress approved March 3, 1915.

The countries and colonies embraced in the Congress are the Argentine Republic, Bolivia, Brazil, Canada, Colombia, Cuba, Chile, Costa Rica, El Salvador, Ecuador, Guatamala, Honduras, Haiti, Hawaii, Mexico, Martinique, Nicaragua, Panama, Paraguay, Peru, Santo Domingo, United States, Uruguay, Venezuela, British Guiana, Dutch Guiana, French Guiana, Jamaica, Barbadoes, St. Thomas and St. Vincent. The organization of the Congress is perfected in these countries and the majority of them have signified their intention to be represented by duly accredited delegates.

The Congress will meet in seven sections, viz.: (1) medicine; (2) surgery; (3) obstetrics and gynecology; (4) anatomy, physiology, pathology and bacteriology; (5) tropical medicine and general sanitation; (6) laryngology, rhinology and otology; (7) medical literature.

All members of the organized medical profession of the constituent countries are eligible and are invited to become members. The membership fee is \$5 and entitles the holder to a complete set of the transactions. Advance registrations are solicited and should be sent with membership fee to the Treasurer, Dr. Henry P. Newman, Timken Building, San Diego, Cal.

The general railroad rate of one fare for the round trip, good for three months, made on account of the Panama-Pacific Exposition at San Francisco, and the California Exposition at San Diego, is available for the Pan-American Medical Congress.

The Palace Hotel will be headquarters.

The First Pan-American Medical Congress was most successfully held in the United States in 1893. Five intervening Congresses have been held in Latin American countries. It now devolves upon the medical profession of the United States to make this, the seventh, the most successful in the series.

Charles A. L. Reed, President, Union Central Building, Cincinnati. Harry M. Sherman, Chairman Committee of Arrangements, 350 Post Street, San Francisco. Ramon Guiteras,

Secretary General, 80 Madison Avenue, New York City. Philip Mills Jones, Special Committee on Hotels, 135 Stockton Street, San Francisco.

MEMBERSHIP CHANGES, APRIL

NEW MEMBERS

Andrew Arnett, Novelty.
Robert P. Aldridge, Anniston.
J. LeRoy Atherton, Springfield.
H. D. Baker, Springfield.
Edward Bogard, Lilbourn.
Janadius B. Bell, Morehouse.
Ella T. Colby, Roads.
William D. Colby, Roads.
I. H. Ferguson, Monett.
Thomas Fleming, Moberly.
O. K. Megee, Moberly.
James D. Musick, Calhoun.
Alvin J. Lorie, Kansas City.
George M. Nichols, Higbee.
Charles C. Presnell, Charleston.
E. G. Rhodius, Potsdam.
P. Sherlock, Novelty.
Wallis Smith, Springfield.
Roderick D. Streeter, Moberly.
Cullen O. Thomas, Worthington.
John I. Tucker, St. Joseph.
Robert A. Woods, Clark.

CHANGE OF ADDRESSES

Wilson R. Adams, Linneus to Enterprise, Ore.
W. S. Bailey, Leeper to Poplar Bluff.
Nathan Boggs, Kansas City, Mo., to New London, Iowa.
W. H. Clithero, 3547 Wyoming St. to 6016 Michigan Ave., St. Louis.
John L. Cox, Winston to St. Joseph.
Emery E. Evans, Eugene to New Florence.
M. R. Horwitz, Humboldt Bldg. to Delmar Bldg., St. Louis.
George E. Hourn, Kirkwood to St. Louis.
Horario S. Jones, Linden to Kansas City.
W. E. Handley, Senath to Springfield.
O. M. Koenig, 3515 Park Ave. to 1251 Blackstone Ave., St. Louis.
George H. Kuper, St. Louis to Ferguson.
Neil S. Moore, St. Louis to Moberly.
Thomas F. Miller, 2731 Prospect Ave. to 2730 Holmes, Kansas City.
Harry T. Morton, Kansas City, Mo., to North Warren, Pa.
Elsworth E. Moody, St. Louis to Carterville (Temporary).
John S. Mott, Rialto Bldg. to Argyle Bldg., Kansas City.

F. G. Pernound, 1630 S. Grand Ave. to 3100 S. Grand Ave., St. Louis.

R. W. Paris, Morrisville, Mo., to Muskogee, Okla.

Robert P. Price, Slater to Triplett.

A. J. Raemdonck, 3547 Laclede Ave. to Lister Bldg., St. Louis.

Robert Richey, Leeper to Urbana.

William G. Safford, Tarkio to Kansas City.

W. E. Shahan, 4501 Tower Grove Ave. to 925 Beach Ave., St. Louis.

F. O. Schwartz, Metropolitan Bldg. to Wall Bldg., St. Louis.

John O. Skinner, 31st and Cherry to Lathrop Bldg., Kansas City.

William A. Smith, 17 E. Lockwood to 122 W. Lockwood, Webster Groves.

Seth P. Smith, 2331 Eugenia St. to 2286 Clarence Ave., St. Louis.

Ed. F. Stadtherr, St. Louis to Reno Nev.

Harriet H. Stevens, Century Bldg. to 224 Metropolitan Bldg., St. Louis.

Jackson B. Taulbee, Joplin, Mo., to Lexington, Ky.

J. H. Wells, Stanberry to Martinsville.

L. P. Woodworth, 1222 High St. to 814½ Main St., Little Rock, Ark.

RESIGNED OR DROPPED

S. G. Adams, Huntsville.

A. B. Blue, Hannibal.

E. Barrymore, Silex.

Herbert A. Breyfogle, Kansas City.

C. P. Cathcart, Kansas City.

Carlos Copeland, Freistatt.

Lawrence C. Cook, Ouray, Colo.

O. F. Clagett, Carbondale, Colo.

Benjamin F. Carr, Mangum, Okla.

Joseph K. Cole, Lamar.

William O. Coleman, Mindenmines.

O. J. Cunningham, Kansas City.

Robert E. Crabtree, Butler.

George W. Davis, Kansas City.

J. S. Davis, East Prairie.

H. G. Dallas, Wellsville.

Maurice Dick, Stover.

Thomas H. Diven, Wellsville.

D. A. Dobson, Hunnewell.

H. F. W. Baltzer, Cottleville.

J. H. English, Farmington.

W. S. Field, Kansas City.

J. C. Farris, Caruthersville.

Robert L. Ferguson, Marquette, Kan.

John L. Gilleland, Pilot Rock, Ore.

James K. Graham, St. Joseph.

V. L. Greathouse, Fisk.

Lashly M. Gray, California.

E. W. Guilford, Monroe City.

Robert B. Hill, Los Angeles, Cal.

D. M. Hodges, East Prairie.

Thomas J. Hanna, Dwyer, Wyo.

George A. Johnson, Weston, W. Va.

Joseph L. Jones, Jonesburg.

James E. Jordan, Columbia.

Robert Q. Kelly, California.

J. C. Kissenger, Milan.

Albert J. Kraft, Birchtree.

Rolo B. Lester, Desloge.

M. E. Leusley, Madison.

William B. A. McNutt, Monroe City.

A. R. Mitchell, Edgerton.

John L. McAlister, Fisk.

John H. McCoy, Beattie, Kan.

George M. Mockbee, Hillsboro.

S. N. Newton, Stover.

C. B. Hopkins, Kansas City.

Joseph W. Petty, Rutledge.

I. W. Powell, Holcomb.

Charles B. Quinton, Houston, Tex.

E. J. Rawls, Wyatt.

John H. Rambo, Glenwood.

Isaac M. Roberts, Wyaconda.

J. L. Roberts, Richmond.

Henry Rodenmeyer, Kelso.

S. A. Russell, Fairview.

John E. Rutledge, Festus.

James G. Rafter, Muskogee, Okla.

William S. Shirk, McPherson, Kan.

Ross H. Shepler, Green City.

J. R. Shotwell, Curryville.

Roy R. Shafer, Rich Hill.

O. J. Sloan, Bloomington, Ill.

Edward C. Snavelly, Edmonson.

Samuel O. Stratton, Lincoln.

E. R. Stroup, Weatherby.

Walter E. Sturgis, Beeville, Tex.

J. C. Sutherland, St. Joseph.

A. L. Stepp, Vanduser.

A. W. Thomas, Springfield.

G. H. Tarr, Belmont.

James A. Turner, Coffman.

William F. Taylor, Martinsburg.

John C. Whitsell, St. Joseph.

Ralph H. Williams, Bosworth.

J. H. Winter, Parkville.

R. H. Watson, Grandin.

Charles Zuppann, Ballwin.

David H. Young, Fulton.

DECEASED

E. E. Furney, St. Petersburg, Fla.

Z. T. Knight, Fulton.

Hugo C. Kluber, California.

H. J. Ruyle, Springfield.

BRING YOUR POCKET CARD.

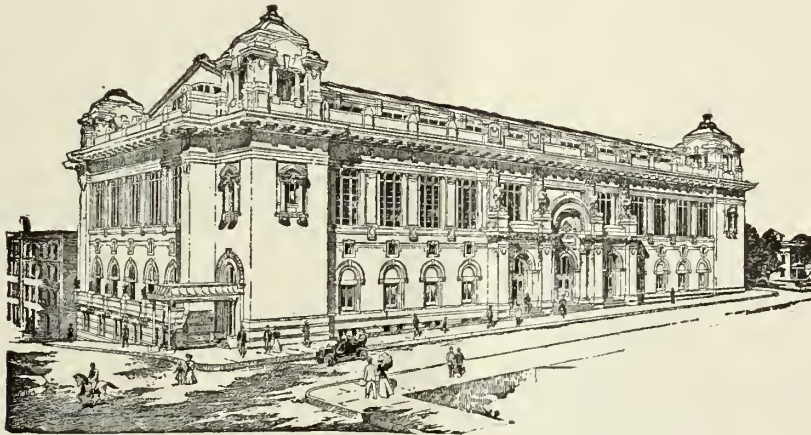
MISCELLANY

ST. JOSEPH, MAY 10, 11, 12

The third city in the state will entertain the Association this month, it being the first opportunity for the members in St. Joseph to be our host since 1902. It was at St. Joseph that the

attendance has gradually increased from year to year and we shall be very much disappointed in our estimate if the registration at St. Joseph does not exceed 600.

One of the chief points of interest in St. Joseph is the stock yards, which spread over an area of 500 acres with 80 acres of covered pens and sheds and 25 miles of railroad track and an annual trade of about \$57,000,000. The freight traffic is enormous and 120 passenger trains arrive and depart every day over the



St. Joseph's Public Auditorium. This building is owned by the citizens. Its seating capacity is 8,000, is built of concrete throughout and is absolutely fire proof. It has no steps of any kind. All the inclines are run-ways.



existing scheme of organization was proposed and the constitution and by-laws introduced to be adopted in 1903 at Excelsior Springs. By this change the membership was increased from 269 in 1902 to 1,128 in 1903, while today we have 3,057 members. At the session in 1902 less than 100 members were present, but the

seven trunk lines centering in the union station. The interurban railway system is electrically operated and links the city with Kansas City, Excelsior Springs and many other cities in the surrounding territory. The equipment is superb. The distance between Kansas City and St. Joseph on the interurban line is 64 miles

The road is almost curveless, has practically no grades and so delightful and interesting is the two hour ride that one is at the terminus ere he thinks he is well started on his journey. At St. Joseph these cars pass the Robidoux and St. Francis hotels. On the steam railroads the distance is 62 miles, and numerous trains connect the two cities, the Burlington being the most direct line, although the Missouri Pacific and other roads have frequent trains.

St. Joseph owns and maintains the municipal electric light plant for street lighting and boasts a magnificent "White Way," the bulletin of the Commerce Club tells us, but it also assures us that the police force is the most efficient and trustworthy in the state of Missouri.

The city was founded by Joseph Robidoux, who went from St. Louis in 1826 and established a trading post with the Indians in what



HOTEL ROBIDOUX HEADQUARTERS

was then called the Blacksnake Hills. After the Platte Purchase in 1836, white settlers began to pour in, and in 1843 the town was laid out and named St. Joseph. Starting with a population of less than 1,000 in 1846 it grew rapidly, almost doubling itself in the decade from 1890 to 1900 when it jumped from 52,000 to 103,000. The population at present is estimated at 85,000.

One of the state hospitals for the insane is located at St. Joseph, it being the second institution of this kind erected by the state and was opened for patients in 1874. The first superintendent was Dr. George C. Catlett of St. Joseph, who was elected president of the State Association in 1885. Dr. A. C. Pettijohn is superintendent now.

Our late lamented and beloved poet, Eugene Field, has immortalized St. Joseph in his poem,

"Lover's Lane, St. Jo." The guide-book gives no directions for reaching Lover's Lane, but we believe the electric lines have a track somewhere near by and that it lies proximate to the State Hospital for the Insane. For further information consult the members of the committee on arrangements, who doubtless are well



SCOTTISH RITE CATHEDRAL.—ALL SESSIONS WILL BE HELD IN THIS BUILDING.

qualified to act as proxeni. We quote two stanzas from Field's merry lilt:

"I would have a brown-eyed maiden
Go driving once again;
And I'd sing the song, as we snailed along,
That I sung to that maiden then;
I purposely say 'as we snailed along,'
For a proper horse goes slow
In those leafy aisles where Cupid smiles
In Lover's Lane, Saint Jo.

Let us sit awhile, beloved,
And dream of the good old days,
Of the kindly shade which the maples made
Round the staunch but squeaky chaise;
With your head upon my shoulder
And my arm about you so,
Though exiles, we shall seem to be
In Lover's Lane, Saint Jo."

(T. D. 2172.)

Narcotic Law.

Synopsis of rulings on questions relating to the act of Congress approved December 17, 1914, known as the Harrison narcotic law.

TREASURY DEPARTMENT,
OFFICE OF COMMISSIONER OF INTERNAL REVENUE,

Washington, D. C., March 9, 1915.

The following synopsis of rulings on questions relating to the narcotic law is published for the information of Internal Revenue officers and others concerned. All rulings or parts of rulings heretofore made which are in conflict herewith are hereby revoked:

Administration, external and internal.—Liniments, ointments, or other preparations containing drugs not specifically exempt, used for oral, nasal, aural, ocular,

rectal, urethral, or vaginal administration are not in such cases used externally and are therefore not exempt from the provisions of this law.

Attendance (personal), definition of.—A physician, dentist, or veterinarian must actually be absent from his office and in personal attendance upon a patient in order to come within the exemption of section 2, paragraph A, of this law.

Department stores handling drugs.—A general merchant who handles any of these drugs or preparations under authority of the State laws must register and pay the special tax required by the Federal law.

Diacetyl morphin.—As this is the chemical name for heroin it will be classed as such.

Drugs dispensed, record of.—A physician or dentist who administers minute quantities of drugs coming within the scope of this law in his office may keep a record of the date when a stock solution is made and the date when such stock solution is exhausted without keeping a record of the name and address of each patient to whom such drugs are administered. This plan will be allowed, however, only in cases of those physicians and dentists who use minute quantities of these drugs, such as oculists, aurists, and other specialists; but where a physician engaged in a general practice otherwise administers such drugs it will be necessary for him to keep a record of the name and address of the patient, of all drugs dispensed, distributed, or administered in his office, and of such drugs left with a patient to be taken in his absence. Only such drugs as are personally administered by a physician to a patient when away from his office are exempt from record.

Drugs delivered, receipts for.—A retail dealer in filling a prescription or order form calling for any of the drugs coming within the scope of this law is not required to demand a receipt therefor.

Druggists engaged in more than one business.—A retailer having more than one place of business, or, if in any case, the retailer is engaged in more than one profession or business where any of the drugs coming within the scope of this law are made, stored, or dispensed should make application for registration in each such case.

Employees of registered persons.—Persons registered under this law will be held responsible for the acts of their employees in dispensing or distributing any of the drugs coming within the scope of this law.

Exemption of certain preparations.—The exemptions provided in section 6 of this law are held to apply only to United States Pharmacopœia standard preparations or to remedies prepared under private formula, such as are usually carried in stock by druggists and dispensed without prescriptions, and not to pseudo preparations or remedies prepared, prescribed, or sold on account of the narcotic drug contained therein.

Fraudulent prescriptions.—A druggist, when receiving a prescription for any of the drugs coming within the scope of this law, should carefully scrutinize such prescriptions and where he has reason to believe that the same is forged or that the quantity of drug prescribed is unusually large, he should, before filling such prescription, satisfy himself that the same is genuine and properly prepared. Every druggist should know the signature of the reputable, legitimate physicians in his locality, and should he fill a fraudulent prescription he would be liable to prosecution.

Hospitals and sanatoriums must keep a record of drugs dispensed, distributed, or administered therein.

Inventories must be retained on file by person making same and not sent to the collector of internal revenue or the Treasury Department. Such inventories must be sworn to.

Name in full—Meaning.—A physician may sign prescriptions calling for drugs coming within the scope of this law the same as he would sign a check or legal document, i. e., J. H. Smith, John H. Smith, or John Henry Smith.

Nurses, status of.—Not allowed to register and can only have narcotic drugs in their possession under direction of registered physician. Can only obtain supplies of such drugs upon registered physician's prescription and only when nursing patient of such physician.

Ointment, liniments, etc., for external use only containing more than the quantity of drugs specifically exempt under section 6 can be dispensed or distributed without complying with its provisions, only when such ointments, liniments and other preparations contain ingredients rendering them unfit for internal administration—in other words, they must be denatured.

Opium, definition of.—In making calculations on the amount of opium present in any given preparation, this office will take the United States Pharmacopœia standard for *opii pulvis* (powdered opium) containing 12 per cent. to 12.5 per cent. of morphin.

Order forms not to be used as prescription blanks.—Original and duplicate order forms are only to be used for obtaining a supply of the drugs and preparations covered by this law and can, under no circumstances, be used as a prescription.

Paregoric, status of.—Camphorated tincture of opium, prepared according to the United States Pharmacopœia standard, contains not quite two grains of powdered opium to the fluid ounce and is, therefore exempt from the provisions of this law.

Partnerships of physicians.—Where two or more physicians, dentists, or veterinary surgeons are in partnership, doing business under a firm name, it is necessary for the firm to be registered, the firm registry number to be indicated in ordering any of the drugs for use in the office practice of the members of the firm, each individual physician, dentist, or veterinary surgeon in such partnership should register and pay the special tax under his own name, if also engaged in private practice.

Physicians, dentists, and veterinarians practicing in more than one district.—If maintaining an office in more than one internal-revenue district must register in each district. If not maintaining more than one office registration in one district permits him to practice in any other district with but one registration.

Prescription blanks.—A physician, dentist, or veterinary surgeon can make use of any prescription blank, provided the same is properly dated and signed and has indicated thereon the physician's address, his registry number, and the name and address of the person for whom such prescription is written. The Government does not furnish a form on which prescriptions may be written and the special order form cannot be used for this purpose.

Prescriptions, partial filling of.—Original prescriptions only can be lawfully filled by druggists, and the partial filling of such prescriptions, from time to time, where large quantities of drugs have been prescribed, will, under no circumstances, be permitted.

Proprietary preparations with an exempted amount of narcotic drug.—It will not be necessary for a registered physician, in order to secure patent or proprietary medicines containing less than amounts named in section 6 of this law, to furnish with such order a Government blank.

Refilling prescriptions.—Only original prescriptions can be filled by druggists and apothecaries and cannot be refilled without violating this law.

Registration, who eligible for.—The following persons legitimately engaged in the practice of their profession and dealers allowed by the State laws to handle narcotic drugs are eligible to registry under this law: Persons engaged in the practice of medicine and surgery, persons engaged in the practice of dentistry, persons engaged in the practice of veterinary medicine and surgery, persons engaged in the importation and sale of drugs, persons engaged in the manufacture and sale of drugs at wholesale, persons engaged in the manufacture and sale of drugs at retail.

An osteopath, therefore, or other person heretofore administering these drugs, if not classed as a physician in the state in which he resides, would not be permitted to register under this law.

DAVID A. GATES,

Acting Commissioner of Internal Revenue.

Approved:

W. G. McADOO,

Secretary of the Treasury.

BRING YOUR POCKET CARD.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
Webster County Medical Society, Jan. 1, 1915.
Sullivan County Medical Society, Jan. 2, 1915.
Cooper County Medical Society, Jan. 16, 1915.
Camden County Medical Society, Feb. 2, 1915.
McDonald County Medical Society, Feb. 12, 1915.
Daviness County Medical Society, Feb. 22, 1915.
Christian County Medical Society, March 22, 1915.
Ste. Genevieve County Med. Soc., March 24, 1915.
Atchison County Medical Society, March 25, 1915.
Benton County Medical Society, March 26, 1915.
Schuyler County Medical Society, March 30, 1915.
De Kalb County Medical Society, April 12, 1915.
St. Charles County Medical Society, April 14, 1915.
Barton County Medical Society, April 15, 1915.
Carroll County Medical Society, April 17, 1915.
Platte County Medical Society, April 19, 1915.
Clark County Medical Society, April 19, 1915.
Audrain County Medical Society, April 21, 1915.
Putnam County Medical Society, April 24, 1915.

MISSOURI STATE MEDICAL ASSOCIATION

Fifty-eighth annual meeting of the Missouri State Medical Association, St. Joseph, May 10, 11 and 12.

PROGRAM

House of Delegates

FIRST DAY—MONDAY, MAY 10, 1915

SCOTTISH RITE CATHEDRAL

House of Delegates called to order at 9:00 a. m.
Roll call.
Reading of minutes of previous meeting.
Reading of president's message and recommendations.

Appointment of Committee on Nominations.
Report of Committee on Arrangements.
Report of the Judicial Council.
Report of secretary.
Report of treasurer.
Report of Committee on Scientific Work.
Report of Committee on Health and Public Instruction.
Report of Defense Committee.
Report of Publication Committee.
Report of Committee on Medical Education.
Report of Committee on Constitution and By-Laws.
Report of special committees.

RECESS UNTIL 3 P. M.

Report of Reference Committee.
Reading of resolutions, memorials, etc.
Report of Committee on nominations.
Election of president.
Selection of place of next meeting.
Miscellaneous business.

JUDICIAL COUNCIL

Judicial Council meeting at 12 noon in parlor or Robidoux Hotel.

1st District.....C. L. Evans, Oregon
2d District.....L. A. Todd, St. Joseph
3d District.....G. W. Whitely, Albany
4th District.....J. B. Wright, Trenton
5th District.....E. E. Parrish, Memphis
6th District.....A. C. Crank, Canton
7th District.....J. D. Smith, Shelbyna
8th District.....L. W. Cape, Maplewood
9th District.....A. R. McComas, Sturgeon
10th District.....C. H. Dixon, Holliday
11th District.....J. D. Brummall, Salisbury
12th District.....C. M. McConkey, Lathrop
13th District.....F. E. Murphy, Kansas City
14th District.....C. T. Ryland, Lexington
15th District.....H. S. Crawford, Harrisonville
16th District.....E. N. Chastain, Butler
17th District.....S. G. Kelly, Sedalia
18th District.....Frank DeVilbiss, Tipton
19th District.....S. V. Bedford, Jefferson City
20th District.....F. J. Lutz, St. Louis
21st District.....G. M. Rutledge, Ste. Genevieve
22d District.....G. S. Cannon, Fornfelt
23d District.....T. C. Allen, Bernie
24th District.....T. W. Cotton, Van Buren
25th District.....T. T. O'Dell, Ellington
26th District.....W. H. Breuer, St. James
27th District.....J. H. Elliott, West Plains
28th District.....T. O. Klingner, Springfield
29th District.....R. L. Wills, Neosho

GENERAL SESSION

TUESDAY, MAY 11, 1915—9 A. M.

SCOTTISH RITE CATHEDRAL

Address of the President
H. C. Shuttee, M.D., West Plains
A Brief Discussion of Twilight Sleep
George A. Aiken, M.D., Malta Bend
A Report of Cases of Pneumonia Treated with
Rosenow and Hektoen's Antigen
Ola Putman, M.D., Marceline

- Congenital Absence of Crystalline Lens
J. W. Sherer, M.D., Kansas City
- Intraocular Sarcoma; Report of Cases
J. H. Thompson, M.D., Kansas City
- Essential Hemorrhage from the Uterus
Charles H. Wallace, M.D., St. Joseph
- Renal Tuberculosis
James P. Henderson, M.D., Kansas City
- Kidney Tuberculosis, with Special Reference to
Some Inoperable Cases
C. E. Burford, M.D., St. Louis
- Unilateral Renal Hematuria
C. M. Nicholson, M.D., St. Louis

GENERAL SESSION

TUESDAY, MAY 11, 1915—1:30 P. M.

SCOTTISH RITE CATHEDRAL

- By-Ways of Medicine
E. C. Wittwer, M.D., Mountain Grove
- Hodgkin's Disease.....George Ives, M.D., St. Louis
- Some American Strophanthus Preparations
Albert E. Taussig, M.D., St. Louis
- Applied Therapeutics
R. L. Ramey, M.D., Garden City
- Bacterins or Bacterial Vaccines in General Practice
C. F. Briegleb, M.D., St. Clair
- Factors of Safety in Goiter Operations
V. P. Blair, M.D., St. Louis
- Surgery of Goiter.....Roland Hill, M.D., St. Louis
- Research in the Mechanical Pathology of the Foot
with Theoretical Suggestion of a More Rational
Treatment—Illustrated with Stereopticon Views
Benjamin Belove, M.D., Kansas City
- Deformities of the Foot—Illustrated with Lantern
Slides.....E. L. Cooley, M.D., St. Louis

GENERAL SESSION

WEDNESDAY, MAY 12, 1915—9 A. M.

SCOTTISH RITE CATHEDRAL

- Discrimination in the Use of Methods to Produce
Surgical Anesthesia..Ellis Fischel, M.D., St. Louis
- Factors That Make for Better Results in Cranial
Surgery—Illustrated..Ernest Sachs, M.D., St. Louis
- Misleading Symptoms of Lesions of the Abdominal
Viscera.....W. G. Thompson, M.D., Holden
- A Question in Dealing with Abdominal Adhesions
Frank G. Nifong, M. D., Columbia
- Diagnosis and Treatment of Abdominal Ptosis
William Engelbach, M.D., St. Louis
- X-Ray Study in Colon Stasis
Fred B. Hall, M.D., St. Louis
- Choice of Operation in the Various Classes of Cases
of Retrodisplacement of the Uterus, with Lantern
Slides.....H. S. Crossen, M.D., St. Louis
- Gastro-Enterostomy
Herman E. Pearse, M.D., Kansas City
- Will the Profession Have to be Re-Educated on
the Subject of Appendicitis?
John Young Brown, M.D., St. Louis
- Tumor of Carotid Body, with Report of a Case
C. W. Russell, M.D., Springfield

GENERAL SESSION

WEDNESDAY, MAY 12, 1915—1:30 P. M.

SCOTTISH RITE CATHEDRAL

- Treatment of Syphilis....W. J. Wills, M.D., Sedalia
- Infantile Syphilis and Neosalvarsan
Frank C. Neff, M.D., Kansas City
- Preventive Medicine in Obstetrics
Francis E. Wilhelm, M.D., Kansas City
- Thrombosis in Obstetrical and Gynecological Prac-
tice.....P. H. Swahlen, M.D., St. Louis
- Etiological Factors in Vomiting of Pregnancy and
How to Overcome Them
John D. Seba, M.D., Bland
- Empyema.....B. A. Poorman, M.D., Kansas City
- Chronic Cystic Mastitis with Lantern Slide
Demonstrations...O. L. Castle, M.D., Kansas City
- Treatment of Epithelioma by Roentgen Ray
J. L. McDermott, M. D., Kansas City
- The Symptomatology and Treatment of Alopecia
Areata.....Richard L. Sutton, M.D., Kansas City

SEVENTH ANNUAL MEETING MISSOURI SOCIETY OF MEDICAL SECRETARIES

ST. JOSEPH, MONDAY, MAY 10, 1915

SCOTTISH RITE CATHEDRAL, 1:30 P. M.

- Why Has the County Medical Society no Political
Influence.....Dr. J. Q. Cope, Lexington, Mo.
- The Medical Organization as a Social Factor
Dr. O. B. Hall, Warrensburg, Mo.
- The Real Purpose of County Medical Society
Meetings...Dr. H. S. Crawford, Harrisonville, Mo.
- Peace-Makers.....Dr. J. A. McComb, Lebanon, Mo.
- Topic for General Discussion: How Can the At-
tendance at the County Medical Society be Main-
tained?

SECRETARIES' BANQUET

HOTEL ROBIDOUX, 6 P. M.

- Address.....Dr. J. H. Timberman, Marston, Mo.
- Address.....Dr. F. H. Matthews, Liberty, Mo.
- The Secretaries as Seen by the Council
Dr. F. J. Lutz, St. Louis, Mo.
- Address.....Dr. A. R. Craig, Chicago, Ill.
- Address.....Dr. E. J. Goodwin, St. Louis, Mo.

OFFICERS

- President—Dr. J. H. Timberman, Marston, Mo.
- First Vice-President—Dr. J. F. Roberts, Bolivar, Mo.
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THE SURGEONS' CLUB OF ST. LOUIS

Regular Meeting in the Parlors of the St. Louis
Medical Society, Dec. 16, 1914

TRAUMATIC AXILLARY ANEURYSM— By DR. H. S. MCKAY

The aneurysm developed some two months after injury, which was a stab wound of the chest, and he came to the clinic on account of an injury to the brachial plexus and inability to use the arm; not until about two months later did the aneurysm develop. We presented him at a previous meeting of the club.

We had intended to do an obliteration or reconstruction if possible, but on making an opening we saw that we should probably have to cut the pectoral muscles in two, because the sac was so large and extended under the clavicle so that we could not temporarily compress the axillary artery. We decided not to do anything further for the time being but to test out the collateral circulation a little better than it had been done prior to this, and to wait.

We sent for one of the metal bands of Matas, and while waiting, daily compressing the subclavian artery and applying the treatment outlined by Matas, we noticed the arm improved right along. After about two weeks the radial artery had ceased to pulsate and we were unable to feel any expansile movement of the aneurysm in the axilla; therefore, we deferred all other treatment. His arm is now in such condition that he can move it very well and motion is returning to the fingers. He has had no ray therapy.

PSEUDOMYXOMA OF PERITONEUM IN MALES—By DR. GEORGE IVES

Before demonstrating the specimen of Dr. Bailey's, I think it may be well to demonstrate another specimen which is similar and in which the diagnosis is clear. This specimen comes from a man of about 70, who for some years had suffered abdominal discomfort and distention. He was at the old St. John's Hospital in the service of Drs. Engelbach and Brown, and all they did was to insert a needle into his abdomen and take out some fluid which contained small gelatinous masses. No definite diagnosis was made, but some suggested that it was probably an echinococcus cyst which had undergone some degenerative changes. He went home and came back to the new St. John's over a year ago, when his abdominal distress was so great that he consented to operation. In cutting into the abdomen they went through a somewhat hard layer, in some places several inches thick, and gelatinous. The abdominal cavity contained fluid and small gelatinous masses. This material covered the entire peritoneum, both visceral and parietal. The abdomen was closed after removing some of the tumors. This specimen is one of the tumors which projected from the peritoneum. As the diagnosis had been an echinococcus cyst I put it under the microscope looking for the hooklets and was unable to find them, but I remembered the case of Curtis, a Frenchman, in which he described myxomatous tumors with yeast cells, so I made a culture and obtained a pure culture of yeast. Now, whether this tumor is due to yeast, I do not say. It may be a contamination, but it is the first time that I ever got such a pure culture of yeast cells.

The second specimen is from the same case and represents the abdominal layer that covers the liver, etc. It shows a meshwork of connective tissue in which there are masses of jelly-like material. Dr. Seelig is really responsible for the diagnosis in this case of pseudomyxomata of the peritoneum. It is not only an unusual case but it is unusual occurring in a man, most of these cases of pseudomyxoma being in women and secondary to the ovary. The theory in regard to these tumors when they occur in men is that they are secondary to the appendix. I presented this case just as an introduction to the presentation of the second case.

I am sorry I have not the other data on this case. It is a young man who had a laparotomy two years ago for a condition of the appendix which I do not know. He thought his appendix was taken out but evidently it was not. He was operated on by Dr. Bailey who removed the appendix and found the tumor in it. This tumor has not been opened. There is a gelatinous material free in the peritoneal cavity and there is gelatinous fluid over the peritoneum in

the region of the appendix. It seems to me on opening this appendix that there is a solid tumor there. For certain reasons, Dr. Bailey does not want it opened up any more at the present time. The gelatinous material is not confined to this little tumor; it is around it. I have advanced the possibility that it is a beginning pseudomyxoma of the peritoneum.

DISCUSSION

DR. M. G. SEELIG: In women pseudomyxoma of the peritoneum usually follows the rupture during removal or spontaneous rupture of pseudomucinous cysts of the ovary. The mucinous content carries with it some of the mucin-producing cells which seem to have a predilection for implantation, and produce by implantation of metastases a type of peritonitis. This type is, of course, very common in women.

In the male this type is extremely rare, and as various pathological examinations indicate, these implantations of metastases in the male seem to take their origin invariably from mucinous cysts of the appendix. It is assumed that it is the mucin-producing cell that normally exists in the appendix which, when the appendix ruptures and allows these cells to be scattered about, is responsible for this type of peritonitis. Strange to say, the French school, who have busied themselves more than any other group of men with this disease, particularly in the male, seem to feel that it is a fairly benign lesion and that if one gets the appendix out and scoops out the mucinous material the patient offers a fairly good prognosis.

I have now seen three of these cases. The disease resembles the colloid carcinoma; in fact, I cannot see any difference between them.

I had a case last year which came into the City Hospital after an appendectomy, but the surgeon had no recollection of whether he took out the appendix. The patient came in with a fistula discharging colloid material. I made a diagnosis of colloid carcinoma of the cecum but it occurred to me later that possibly it might be a pseudomyxoma.

A few days ago, a man with this condition came into my service at the City Hospital with a diagnosis of bubo. He has a fistula out of which springs a fungous granulation tissue varying in size from an English walnut to a pea, from which we can get a drop of colloid material occasionally. He is cachectic and I believe he has a pseudomyxomatous peritonitis. Every male I have seen with this disease has either been cachectic or is prone to be so.

DR. LOUIS RASSIEUR: About three years ago a woman came to me with a rather large mass in the lower abdomen and dulness in the lumbar region. I did not make a diagnosis of the condition, but advised laparotomy and found a large ovarian cyst, which had ruptured spontaneously in two different places. I excised the ovarian cyst, examined further and found the appendix also had cysts on it. I excised the appendix and scooped out a little of the material that was in the peritoneal cavity. She made an uneventful recovery and has remained in good condition.

DR. JOHN McH. DEAN: About six years ago I made a diagnosis of colloid carcinoma in a male patient about 45 years of age, and on aspirating obtained a lot of colloid substance. I made an incision into the abdomen and excised about one-third of the omentum. Dr. Fish made the diagnosis of a colloid carcinoma of the peritoneum. The patient lived for three years the end being rather pitiful, the rectum and esophagus being totally obstructed.

I regard the cases Dr. Ives reports as malignant colloid carcinoma. It is very difficult to make a differential diagnosis. The tumors originate in the male from the appendix and in the female from the ovarian tissue, but metastases occur and the patient usually dies from extension into the peritoneum.

DR. GEORGE IVES (closing): The most important thing about the subject is the possibility that this is an infection. As stated, I made a culture of the first case presented and got enormous quantities of yeast. We may be dealing with more than one condition. I have examined this first case thoroughly by different methods, and if epithelium is there it is very scarce. Smears and cultures of the large gelatinous mass show only connective tissue cells. I do not doubt that the colloid material is the product of connective tissue, although in the section you do find once in a while an area which looks like epithelium; I do not know whether it is epithelium which may be likened to cancer epithelium or whether it is endothelium. I would advise anyone who has a case of this kind to make a culture to get the etiology of it.

DEMONSTRATION OF CASE OF ANEURYSM OF OPHTHALMIC ARTERY—

By DR. E. SACHS

Several months ago the patient was in a motorcycle accident and had a number of fractures, among them a basal fracture of the skull and depressed fracture in the region of the malar bone. A few weeks after she began to notice a roaring in her head which constantly increased until it prevented her from doing any work. She came into the hospital for the first time about two and a half months ago. A pulsating tumor was at once apparent a slight distance from the skull. Roentgen-ray examination showed complete destruction of the roof of the orbit and a large defect of the skull; part of the supraorbital ridge had been driven in and the defect was occupied by a traumatic aneurysm which seemed to be an aneurysm of the ophthalmic artery. On compressing the common carotid the pulsation and the roaring in the head stopped immediately. I was loath to ligate the common carotid so we sent her out and had her practice compressing her common carotid artery for about three weeks, until she could do it for about fifteen or twenty minutes—until she was too tired to hold her finger there any more. Then we had her come in and we put on a Matas band. The only symptom she had was intense headache for about an hour after operation. There was no symptom of cerebral anemia. She went home and back to work and says she notices now only a very little noise in her head. There is a little pulsation still to be felt.

Now, the question comes up here whether the band was put on quite tightly enough and whether there is still some circulation into the aneurysm, or was there a collateral circulation from the circle of Willis into the ophthalmic artery? If it were a collateral circulation the aneurysm should have returned by this time and be as large as ever; or perhaps the pulsation may be due to the band not being put on tightly enough. It is only too well known that the old method of ligating the common carotid is a very serious procedure. Wood collected 119 cases with 45 deaths. Another man collected 520 cases with 91 deaths. The percentage of fatalities varies between 25 and 38 per cent. by the old method. This method of having the patient train her collateral circulation is a very distinct advance in treating this rather unusual type of aneurysm. Dr. Severn of the Barnes Hospital was good enough to look up for me a few of the statistics on the question. She is blind in her right eye. At the time of the accident she had a detached retina and she has never recovered the sight of that eye.

I had started to close the incision when the anesthesiologist declared he could still feel pulsation, so I opened the wound again and tightened the band a little, then I compressed the common carotid until I was afraid to do more. I would like to ask the opinion of the members whether it is necessary to obliterate the carotid completely. I think that it is best to leave it alone, as she is perfectly comfortable.

DR. CARSON: I think it would be the best to ligate it.

DISCUSSION

DR. A. E. MEISENBACH: Why should the carotid be ligated? The eye is blind, she has not a great deal of disfigurement, and there is not much discomfort.

DR. WILLARD BARTLETT: I saw Dr. Matas put on these bands and observed his technic differed somewhat from what I infer Dr. Sachs used. Dr. Matas stated that the great advantage which he supposed his band had was that up to fifty-six hours it could be removed and the integrity of the vessel established. My impression was that he left the wound open in order to take off the band if necessary, but he said it was fairly snug.

DR. E. SACHS (closing): I did not put a band on the common carotid on account of anything that had to do with the eye; it was done in order to stop the pulsation and noise in the head. I feel that it is best to leave it alone. She is perfectly comfortable now and able to work; and even if we have not completely stopped the circulation of the aneurysm we have slowed the current in the aneurysmal sac to such an extent that she has no symptoms from it. If at any time symptoms should develop it would be a very simple matter to do more.

I think what we did was preferable to the Matas method. An interne was with the patient constantly for the first twelve hours and she was seen every five minutes by one of the doctors on the staff who had instructions to take her upstairs and take off the band if any intracranial symptoms developed.

BLADDER REMOVED FOR CARCINOMA—

By DR. NORMAN B. CARSON

This is the second case that I have done. The first case was in 1904. That patient lived eight months after the operation. This specimen as it stands does not indicate the condition for you can get very little idea of its appearance at the time of removal.

In the first case we transplanted the ureters into the rectum. I first removed the growth from the side of the left ureter; whether I got the entire growth or not, it continued to grow and a secondary operation was demanded; I then removed the entire bladder. He lived eight months. Before his death he was able to void his urine between two or three feet from the vessel. He was a very unmanageable patient and I suppose the ligatures brought out through the anus were annoying him; at any rate he pulled them off and the urine, possibly distending the rectum, forced the ureters back into the site from which the bladder had been removed. At the post mortem we found a new bladder that would hold between 5 and 6 ounces, and lined with ureters drawn back into the site from which the bladder had been removed, and from the internal meatus.

The specimen that I present to-night involves a great part of the bladder, and the patient, who was suffering intensely, insisted on having the condition explained to him; on having something done to relieve him. It is now about two months since the operation, and the patient, the last time I heard from him, was in very good condition and holds urine about two hours although there is still a fistula above. In this case we removed the bladder below the membranous portions of the urethra.

I left the ureters in the wound and did not attempt to transplant them. After the first operation, I devised an operation providing for the reception of the ureters, which consisted in doing a lumbar colostomy, closing the upper part of the rectum and turning it loose, and at about the end of three weeks removed the bladder and transplanted the ureters into the prepared bladder. I had anticipated doing so in this case, but the patient grew worse so rapidly and he was suffering so much that I concluded to remove the bladder and leave the ureters in the wound, hoping to obtain the result observed in the first case—that is, a reformation or reconstruction of the bladder.

DISCUSSION

DR. A. E. MEISENBACH: Some time ago I transplanted both ureters into the descending part of the bowel, and it so happened that the one on the left side was implanted about the beginning of the sigmoid and the right one was implanted four or five inches lower down. It seemed to form a cul-de-sac in which the urine could be retained. The patient, unfortunately, was infected at the time of operation and in the course of several weeks died. The post mortem showed she had a pyelitis on both sides rather differing in its microbic characters; but she had a pyelitis in the beginning so we did not blame ourselves so much for that. The ureters both healed perfectly into the wound in the bowel.

DR. CARSON (closing): I will say that Woodson turned the ureters out on the lumbar region or, at least, in the back. There have been several operations of that kind. In operations on other cases the ureters have been turned into the vagina and out on the skin in various ways; that has always been very fatal.

The first case I had was very unfavorable for an operation of this sort because the kidneys were already badly involved, and the patient died in about eight months from such involvement. In the case demonstrated to-night we have a good subject for testing the operation and its result because the examination of the urine showed the kidneys to be in very good condition so far as we were able to make out.

ANGIOMA OF THE ORBIT—SEPTIC KIDNEY —By DR. JOHN MCH. DEAN

The first specimen is a cavernous angioma of the orbit that occurred in a woman of 73 years; it is said the tumor has existed for twenty years. The last few months she said it grew very rapidly and caused her a good deal of pain. Two years before I saw her the sight of the eye was lost as the result of a cataract and changes in the disc. The structure of this tumor is spongy; the trabeculae are visible and it is made up entirely of blood vessels.

Next is a specimen of a septic kidney in a patient who said she had been suffering for fifteen years. There was a good deal of inflammation around the kidney, the structures were firmly adherent, the vessels were difficult to reach and the structure of the kidney has entirely disappeared. In the calices are large calculi. The kidney looks somewhat tuberculous but the urine does not show tubercle bacilli; injections into guinea-pigs failed to give any tuberculous reaction.

DEMONSTRATION OF TUBERCULOUS KIDNEY—GALL-BLADDER— By DR. LOUIS RASSIEUR

The first specimen is tuberculosis of the kidney with a stone. The patient had a general tuberculosis and came to autopsy where this specimen was obtained. It is a very large kidney, as tuberculous kidneys usually are, a point that the Roentgen-ray would bring out. The urine contained pus and was acid. In the kidney itself the caseated walls of the cavity are to be seen; the cavity is filled with pus and there is a stone in the ureter.

The next specimen I show on account of the pretty play of colors. It is the gall-bladder of a woman of 50 years who took sick with intense pains in the region of the appendix. A tumor was felt there and the doctor who was called made a diagnosis of appendicitis, referring the case to me for operation. A tumor at McBurney's point, after very light palpation, could be traced up toward the liver, which hung very low. She had no icterus and had been treated for stomach trouble. I made a diagnosis of empyema of the gall-bladder. When I made my incision I found

a gangrenous spot about the size of a dime, and the gall-bladder filled with stones. The doctor who was with me counted 124. I emptied the gall-bladder and took out, as I thought, all the stones, but recognizing that it was a gangrenous and phlegmonous gall-bladder, I excised it. In the dilated portion of the cystic duct I found twelve small stones remaining. If I had drained it and the case had come back I would have thought the stones had reformed.

ST. LOUIS MEDICAL SOCIETY

Regular Meeting, February 20, 1915

INSIDIOUS MASTOID INFLAMMATION. By DR. J. B. SHAPLEIGH

DISCUSSION

DR. A. F. KOETTER: I had the pleasure of seeing both the cases reported by Dr. Shapleigh. In the first case, the child, I think a rather unusual thing was the absence of the temperature. In a series of about twenty mastoid operations in the Children's Hospital not one showed an absence of temperature. Some of the cases presented very little indication of middle ear suppuration and paracentesis failed to cause any diminution in the symptoms; in the twenty cases I think the temperature ranged from 103 to 105 F. In one case where the temperature rose, I think, to 106 F. sinus involvement was feared, but on opening the mastoid process and exposing the sinus it was found absolutely normal. It was one of two or three cases that I have seen where the Klebs-Loeffler bacillus was found in the pus. The findings in both the nose and throat were negative. I do not know whether this rise in temperature had any connection with that and I have not seen enough cases to warrant such a statement, but I have seen about three cases which I thought were primary diphtheria of the ear.

In the case of the lateral sinus thrombosis, I think Dr. Shapleigh forgot to mention one symptom that we looked for very closely at all times previous to the operation, a symptom that is found in the majority of cases of sinus thrombosis, namely, tenderness along the jugular. I think this was absent from the beginning and I do not believe it was observed up to the time of the operation, was it?

DR. SHAPLEIGH: No, there was none; I mentioned that in the paper.

DR. KOETTER: The destruction in this case was simply appalling, with the symptoms that the man had. Of course, in the beginning we decided that it was a case of thrombus of the lateral sinus, but finding the malaria plasmodia in the blood caused us to change our diagnosis until the plasmodia disappeared, as Dr. Shapleigh said, and finally it sifted down to the one cause of the septic condition, the ear.

The lesson to be learned from this last case is, that every chronic middle ear suppuration is at all times a menace to the patient's life and no such case should ever be neglected. Even the general practitioner will pay very little attention to it and order perhaps an irrigation or dry application and let it run on, until it suddenly lights up and becomes a serious case. In every chronic middle ear inflammation the conservative treatment should be given a thorough trial; no results obtaining, the radical mastoid should be done.

DR. SHAPLEIGH: I have wondered whether or not it might be possible that the large doses of quinin given to this patient might have had some effect on the failure to find the organisms in the blood. The blood examination was made after administering large quantities of quinin. I remember that when I

was in the City Hospital we always gave quinin in septic cases or when we expected the case to become septic.

Dr. F. A. Glasgow: What organisms did you find?

Dr. Shapleigh: We found the *Bacillus pyocyaneus* and the *Bacillus pyogenes foetidus liquifaciens*.

Dr. Glasgow: In the blood?

Dr. Shapleigh: No, not in the blood, but in the pus from the ear and from the sinus. They were also found in the clot.

Dr. Wm. E. Sauer: A few years ago we had a case at the Baptist Hospital in which there was absolutely no history of ear trouble. The patient had been visiting in Iowa and returned to St. Louis on account of severe headache and fever. The physician who treated him thought he had malaria and he was treated with quinin for some time; then Dr. Bliss was called in. If I remember correctly, the only thing found was tenderness along the internal jugular. I examined the case on the second day; the ear was normal and there was no evidence of tenderness or swelling over the mastoid, but we found tenderness along the internal jugular. The patient's temperature that evening was 104. The following morning he had an ocular examination made. The findings were negative; the patient's temperature was normal and when I saw him that day the patient himself said that he was perfectly well. That afternoon he had a chill and the temperature rose to 104. The following day he had another chill and temperature of 104. We then decided to open the mastoid and explore the sinus. On opening the mastoid we were rather disappointed to find nothing in the mastoid until we got to the top cell; in that cell we found pus. This was followed up and the lateral sinus fully exposed; an extradural abscess was found. The sinus was opened and at least a teaspoonful of pus was evacuated. The jugular was then ligated and the clot removed until free bleeding followed. The patient made a perfect recovery. I reported this case some years ago.

Obscure mastoid cases do not occur infrequently, especially in children. Recently I saw a child with an eczematous condition around the ear and a swelling which appeared forward in the temporal region. There was no history of ear trouble, so we concluded it was simply a superficial abscess resulting from the local infection. I examined the ear, however, and found a slight bulging; I made an incision and a slight serous discharge followed. A wet pack was placed over the swelling and a few days later an abscess localized itself over the auricle. Distinct fluctuation was present. I decided to open the abscess, still bearing in mind that it might be a mastoid. We opened the abscess and found the bone over the mastoid region fully denuded. A large area of bone was exposed, and there was a small area of softening just over the mastoid antrum. We opened this and found it filled with pus. This was a baby 11 months old.

These cases are usually, as Dr. Shapleigh stated in his paper, due to a pneumococcus infection. The infection of the ear may get well and still we may have a focus in the mastoid which will produce rapid destruction.

Dr. F. A. Glasgow: Some years ago when experimenting on the sterilization of catgut, I used *Bacillus pyocyaneus* and I found that acetone and tetrachlorid of carbon killed it very readily, so probably Dr. Shapleigh is right about quinin having some influence on it.

Dr. M. M. Meyers: I would like to ask Dr. Shapleigh if he has ever discovered in any of these discharges, a gram-negative, anaerobic, immotile, non-flagellated, diplo-bacillus or bacillus which was discovered, I think, in 1906 by Prof. Dr. A. Ghon. Dr.

Ghon found quite frequently, in association with streptococci, pneumococci and *Bacillus pyocyaneus*, this gram-negative, immobile, anaerobic bacillus, which he stated produced very foul-smelling discharges and was very toxic.

I would also like to ask Dr. Shapleigh if he thinks the appearance of blood and mucus in the stool, and the axillary pain occasioned after the operation, could not, perhaps, have been the result of the stimulation of a primary tuberculous focus in the lung, from which tubercle bacilli were isolated (according to the report), foci also being present in the intestines and lymphatic glands.

Dr. Shapleigh, closing: I think it is rather unusual to find in cases of sinus thrombosis such an utter absence of all local conditions. It is true that in many cases the majority of the signs will fail but nearly always there is something local. In this particular case, there was absolutely nothing local except the ordinary picture that we see every day of a chronic middle ear suppuration and that apparently quiescent; there was no congestion, no irritation about the tympanic area.

The finding of pus and blood in the stool preceded the operation and my belief now is that it was simply metastatic. Somewhere in the abdominal cavity or the intestine the pus focus started that led to this discharge from the bowel. The tubercular condition, I have my doubts about. I do not feel the least satisfied that the man had tuberculosis at all. Only one test was reported as positive. Everything cleared up and nothing has happened since. I do not believe the operation had anything to do with that.

One of the points that I wanted to emphasize in the paper was this, that in cases of this kind, with indefinite local indications, with nothing to guide us as to the possible presence of sinus involvement, we get very little help from other medical diagnoses. If we have a positive indication of trouble in the mastoid process as a starting point, then if we find positive indications from the blood count and from finding organisms in the blood stream, our diagnosis is rendered very probable, sufficiently so to warrant an operative investigation; but cases like this, where everything is negative—no local findings, the skiagram gave us no help as to the condition of the mastoid, our blood count was very fluctuating, no bacteria whatever—the only thing that we seemed able to do was to make the diagnosis by exclusion. Then it was interesting to make the choice; we had two ears, and the one we did not operate on was the worse of the two as far as appearance was concerned. The fact that there was a polyp, blocking to some degree, made it more or less probable that the pus would be retained and a toxemia start on that side. That choice, as I said, was made because there seemed to be rather more pain and discomfort on the right than on the left.

OTITIC BRAIN ABSCESS

BY DR. WM. E. SAUER

DISCUSSION

Dr. M. A. Bliss: I do not know of any class of cases that are more puzzling or more disturbing than those that have been under discussion to-night. As Dr. Shapleigh has said, after the history is all written and you have the case to present, looking back over it you wonder how you missed the case when it now seems so plain.

Each of the cases Dr. Sauer has reported, except the child, I had the opportunity of seeing and I have worked hard on them. I have looked for every possible way of establishing a sort of plan or system by which to determine the situation at a certain time.

Sometimes it is one little clue and sometimes it is another; sometimes the thing which has been most prominent in the previous case is totally absent in the next. So the rule at Mullanphy Hospital has been, even where a case has been operated on for a mastoid abscess, especially if that has occurred previously, to watch that case. It has happened, as in the case of that girl 19 years old, that the oculist's report, for instance, had a tendency to deceive us. The veins had been much engorged; on the same side, the oculist had reported swelling of the disc that subsided, but we saw that patient twice a day and I happened to be in the hospital in the afternoon, when I found that she had more headache, more pain and her pulse was more variable. I telephoned Dr. Sauer and he sent her to the operating room, with the result that you have heard.

As far as the eye symptoms are concerned, it not infrequently happens that you find very little in the discs and yet it very often happens that you find the veins engorged on the same side.

Focal symptoms in otitic brain abscess are relatively slight. You may get a nerve palsy. It is not so very infrequent that you get a sixth nerve palsy. A considerable number of cases of sixth nerve palsy have been reported in the last two or three years. I had a case recently with Dr. Sauer which was not a brain abscess, but I mention simply as a condition you sometimes find. There was a hypersensibility of the entire half of the face to the distribution of the three branches of the fifth, and I took it that the fifth nerve was heightened in its sensibility by reason of the fact that it crosses the tip of the petrous portion of the temporal bone and that the involvement that frequently takes in the entire region of the temporal bone has to do with the increased sensibility.

In the case that Dr. Sauer reported, where there was a discharge of pus in the ear, while we were waiting to get some sort of localizing sign, we were trying to determine whether, if there was an abscess, it was in the temporal. The man was so dull, so stupid for a time, that he could hardly be roused and yet there was no localizing sign, so we hardly felt justified at first in making an extensive exploration; yet afterwards we found that was what should have been done. It would have saved a great deal of time and risk.

It is rare that these cases recover spontaneously. Very few of them rupture in the right direction to recover and eternal vigilance is the one thing which will enable you to handle them.

Dr. H. W. Hermann: Dr. Bliss has alluded to one symptom of a psychic nature that we find in these cases not infrequently. That is the hebetude, the disposition to be indifferent, to be dull. In some cases you find also a tendency, in these children, to be ugly in their disposition, to criticize, to be hard to handle. The indifference, the change of mental attitude, is frequently noticed in these children and I think is quite a suspicious sign of brain abscess.

Dr. I. D. Kelly, Jr.: In my service at the City Hospital I saw a boy of 15 who had given a history of five days previously being struck on the side of the head with a club. He went home and for about four and a half days was feeling apparently all right—at times a little dizzy. He then developed symptoms of stupor-aphasia and was sent to the hospital. On the fifth day he had a facial paralysis on the opposite side. All abnormal reflexes were present. His ear showed a suppurative on the same side as the blow, which he had had since he was a child. The question was, whether this was a latent brain abscess of otitic origin becoming manifest or whether it was due to the blow. Dr. Chaddock pronounced it a brain abscess.

I did a radical mastoid and exposed the tegmen tympani very completely, going into the middle and

posterior fossa, and found the dura quite normal. I made three brain punctures, one forward in the temporal region, one in the parietal and one posteriorly. We got absolutely no pus. I closed the wound and sent the boy back to bed. In two or three days not a symptom of facial paralysis was present although it had been very nearly complete at the time of the operation. So far as I have been able to make out, it was a case of Quincke's disease, a progressive edema of the brain tissue due to a blow.

Dr. E. Lee Myers: In a case that I had the opportunity of observing, there was multiple brain abscess of the left side which showed a right-sided facial paralysis with Babinski of the right side and arm, a diadokokinesia, and aphasia of the speech-center. She later developed a motor-clonic spasm of the right arm involving only the finger tips and a portion of the extensor muscles of the wrist-joint. We operated on the right side first and found a typical temporosphenoid brain abscess draining from the temporal lobe. Later an abscess was found posterior to this. I have not yet satisfactorily explained how this woman could show a contralateral paralysis and a diadokokinesia on the opposite side, unless the abscess pressed on the internal capsule in such a way as to give the typical signs of a paralysis such as we have in apoplexy. I would be glad to have Dr. Bliss discuss these symptoms.

Dr. Bliss: The doctor says his case was one of multiple abscess. It is evident from the symptomatology that it was multiple, so the picture was that of widely distributed disturbance.

Dr. Wm. E. Sauer, closing: Dr. Bliss struck the keynote when he said these cases should be very closely observed. In the case of the girl, where we exposed the dura very thoroughly, the eye symptoms entirely disappeared after the operation, leading us to believe the patient was recovering. Later on it proved that it was only the decompression which led to the improvement of the eye symptoms, but the headache persisted and finally the vomiting appeared, with slow pulse. It is very important that otologists and neurologists get together on these cases.

There has been considerable dispute as to the depth at which we may safely enter the brain substance. I know of one case where an abscess was opened at a depth of 7 cm. In one case we made six different punctures in the temporosphenoid lobe and three or four punctures in the cerebellum, with negative findings. This patient later developed a hernia of the brain, had some symptoms of intracranial pressure, and got well. We were never able to make a diagnosis.

In the series of cases I reported to-night, three out of the four recovered. This is, of course, very fortunate; but we were fortunate because we had an early diagnosis. If we get these cases early enough and the abscess is close enough to the surface we ought to get perfect drainage.

CLAY COUNTY MEDICAL SOCIETY

A very profitable session was held at the Snapp Hotel in Excelsior Springs the evening of March 29. The attendance was far above the average, with Dr. George Dagg of North Kansas City in the chair, the president, Dr. T. N. Bogart, being absent.

Dr. W. K. Trimble of Kansas City addressed the society on the subject of "Leukemia." The doctor discussed the etiology of the disease at length and dwelt on its obscurity. His differential diagnosis was carefully placed. In discussing the treatment he laid stress on three measures; the exhibition of arsenic, benzol and the Roentgen ray, the latter to be used cautiously over the long bones and not over the spleen. All treatment, however, is ultimately un-

successful. The stereopticon slides made from his cases, about fifty in number, showed the blood-picture in the various stages of the disease. The paper was freely discussed and much applauded.

Dr. J. E. Baird of Excelsior Springs, read a paper on "Blood Pressure." The doctor regarded blood pressure as a "bogey man" in many cases. He did not regard a pressure of 145 to 160 in a man of 45 to be much cause of alarm unless coincident with other disease. The discussion brought out that a patient in a nervous or excited state of mind will give an exaggerated reading and that it is well to keep readings from morbid patients. He said the systolic pressure in adults averaged 135 mm. before rising from bed in the morning.

The next meeting will be in Liberty, Monday evening, April 26. Dr. E. P. Hall of Kansas City will give an illustrated paper on "Discharging Ears," and it will be worth hearing.

A Liberty member will be on the program, but at this report final arrangement has not been made.

Due report of proceedings will follow each meeting. We all appreciate our Journal.

J. J. GAINES, M.D., Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical Society met in Argyle, Thursday, April 1, 1915, in an afternoon and night session. The meeting was held in the public school building of Argyle. There were three members present and four visitors. The members were Drs. M. E. Spurgeon, Red Bird; W. R. Ferrell, Vienna; John D. Seba, Bland. The visitors were Drs. W. L. Leslie, Argyle; I. M. Owens, Leslie; Charles L. Klenk and Norville Wallace Sharpe, St. Louis. Vice-President M. E. Spurgeon, presided at all the meetings.

Two patients were presented by Dr. W. R. Ferrell and one by Dr. Leslie. After this Dr. Ferrell delivered a talk on diphtheria, which created a lively discussion. Dr. I. M. Owens gave a talk on the pathology and treatment of empyema. This was also freely discussed.

Dr. Charles L. Klenk of St. Louis delivered a lecture on serology, in which he explained the technic of the Wassermann test for syphilis and the blood test for pregnancy. He gave a full discourse on serum therapy, with an explanation of how vaccines were made. His remarks were well received. After supper Dr. Klenk spoke to a full house of laymen on conservation of child life. This lecture was well received and frequently applauded.

The secretary read the records of representatives from Gasconade, Maries and Osage counties and said that Mr. Langenberg, the Gasconade county representative, was the only one who had voted against the optometry and chiropractic bills; Mr. Carrington voted against the latter and Mr. Robinson was absent at both roll calls. He explained the eugenic marriage laws of Wisconsin and said that a similar law had been defeated in the Nebraska legislature.

Dr. Norville Wallace Sharpe of St. Louis delivered his public lecture on the relations between the physician and the laymen. He said that the people should promptly pay their doctor bills and in return should demand the very best of services. He deplored the fact that epidemics of infectious diseases were sweeping over this section of the country and the best methods of combating these epidemics, to-wit, the serum treatment, was not being used. His remarks were well received.

The next meeting of this society will be held in Linn, April 29, 1915.

JOHN D. SEBA, M.D., Secretary.

BRING YOUR POCKET CARD.

GREENE COUNTY MEDICAL SOCIETY

The Greene County Medical Society has entered the year's work under very promising conditions. The membership numbers seventy-five; the attendance so far, thirty-seven. Realizing that a good program is of prime importance to the success of a society, the president was fortunate in selecting Drs. Lemmon, Stone and Bailey to arrange the program for the year.

On February 12 Dr. W. A. Delzell read a paper on "Internal Secretions," which was well received by the members.

On February 26 Drs. Stone, Rienhoff, Bailey and Horst presented a Symposium on Syphilis, which was very instructive.

On March 12 Dr. Willard Bartlett of St. Louis gave a lecture on "Clinical and Experimental Study of Gastric Ulcer." The attendance was good and interest marked. This paper was discussed by quite a number of the members and we are confident that Dr. Bartlett's visit to our society will be remembered for quite a while. Dr. Bartlett has been elected an honorary member of the society.

At our last regular meeting Dr. E. M. Box read a paper on "The Nasal Mucosa and the Cautery," which was full of good points and brought forth a spirited discussion.

The society has lost two members by death this year: Dr. Carl Doolin of Ash Grove, killed when attempting to catch a moving train February 20; Dr. H. J. Ruyle of Springfield, who died in St. Johns Hospital, March 22, following a prolonged illness.

We have added a few new members, but still there are quite a few eligible physicians in the county who should become members. We hope to reach most of them this year.

THOMAS O. KLINGNER, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met April 12, 1915, at 2:30 p. m. in the office of Dr. C. W. Watts, Fayette, Dr. Thomas J. Payne in the chair.

The following members were present: Drs. John W. and W. R. Hawkins of Glasgow, James R. Champion of Hillsdale, Thomas J. Payne, A. W. Moore and C. W. Watts of Fayette.

Dr. Thomas J. Payne made a very interesting address, in which he urged prompt attendance of members and complimented the society for its work during his administration.

Dr. J. W. Hawkins, president-elect, took the chair and complimented the administration of the retiring president, Dr. Payne.

The minutes of the last meeting, December 4, 1914, were read and approved.

Dr. Hawkins requested the members to be regular in attendance and not to forget that the society meets on the first Friday in each month. He said he hoped the members would lend him their entire support and that each one would discharge every duty imposed on him by the society.

The secretary moved that the society hold its May meeting with Drs. Hawkins at Glasgow. Seconded and carried. The secretary was instructed to notify the members and request a full attendance at this meeting on May 7, which will be the last meeting before our state meeting at St. Joseph, May 10, 11 and 12.

The secretary read several letters from Dr. E. J. Goodwin, the state secretary, which will be acted on at the May meeting.

As there were no papers presented, Drs. Payne and Moore discussed serum therapy.

Dr. Moore reported a case of a young man who had been bitten by a cat. The serum was used successfully by Dr. M. N. Smith.

A case of puerperal septicemia was reported, in which Dr. N. E. Smith was successful with the serum.

After a very pleasant session the society adjourned at 3:30 p. m., to meet with Drs. Hawkins at Glasgow, May 7, 1915.

C. W. WATTS, M.D., Secretary.

MONTGOMERY COUNTY MEDICAL SOCIETY

The Montgomery County Medical Society met on March 12 at Montgomery City and organized our society. Dr. H. W. Ford of Middletown was elected president and Dr. G. E. Muns of Montgomery City was elected secretary-treasurer.

On motion, which unanimously carried, the secretary was instructed to request Dr. Baumgarten of St. Louis to meet with us at our next meeting some time in May and talk to us on the subject of medical diagnosis.

The secretary was instructed to write all eligible doctors in the county and solicit them to join the society at the next meeting.

Drs. David O. Hudson, George E. Muns, David Nowlin and E. W. Tinsley of Montgomery City were present and paid their dues.

G. E. MUNS, M.D., Secretary.

BRING YOUR POCKET CARD.

RANDOLPH COUNTY MEDICAL SOCIETY

Randolph County Medical Society met at Commercial Club Rooms in Moberly at 4:00 p. m., April 7, 1915. Those present were Drs. C. K. Dutton, G. M. Nichols, D. A. Barnhart, F. O. Blattner, L. A. Bazan, R. A. Woods, S. P. Towles, O. K. Megee, Thomas Fleming, R. D. Streeter and E. W. Shrader.

The meeting was called to order by the vice-president, Dr. S. P. Towles. The minutes of the preceding meeting were read and approved.

The society instructed the delegate to vote for amendment to constitution regarding Article IV, Section 2.

Dr. O. K. Megee, Dr. R. D. Streeter and Dr. Thomas Fleming were elected members.

Officers for 1915 were elected as follows: President, Dr. S. P. Towles; vice-president, Dr. R. D. Streeter; secretary-treasurer, Dr. E. W. Shrader; censor for one year, Dr. O. K. Megee; censor for three years, Dr. Thomas Fleming.

Dr. L. A. Bazan was elected delegate to the state meeting and Dr. G. O. Cuppage was elected alternate.

Dr. Streator, Dr. Megee and Dr. Fleming were appointed to read papers at the next meeting, selecting their own subjects.

On motion the society adjourned to meet on Wednesday, May 5, 1915, at Moberly.

E. W. SHRADER, M.D., Secretary.

VERNON COUNTY MEDICAL SOCIETY

The Vernon County Medical Society met in regular session at the Odd Fellows' Hall, Nevada, Thursday, March 11, at 10:30 a. m. While this society always has very interesting papers and lectures and a liberal attendance, this meeting was especially interesting and the attendance larger than usual.

The society was called to order by the president, Dr. E. A. Dulin. The minutes of the previous meet-

ing were read by the secretary and approved. On roll call the following members answered present: Drs. Craig, Amerman, Yater, Williams, Wilson, Petty, Brown, Bohannon, Calaway, Robinson, Bradley, Dawson, Reynolds, Dulin and Hornback. Drs. W. F. Kuhn, Ralph Major and Howard Hill of Kansas City were present as invited guests.

Before the society met Dr. Howard Hill performed two operations. The first was for a floating and painful right kidney; the second was for placenta previa in the fourth month. Hemorrhages were excessive, the placenta was near the os, but dilation was done and the fetus extracted; the uterus was douched with hot water, packed, etc.

Dr. V. O. Williams read a paper entitled "Opsonic Index," which was very interesting and showed unusual study. This paper was discussed in a very masterly way by Dr. Ralph Major of Kansas City and others.

At noon the doctors enjoyed a fine lunch served in the banquet hall. The lunch was prepared by the ladies of one of our churches, who waited upon us and saw that all were too full of good things for utterance for an hour, or until each had disposed of a good cigar.

At the afternoon session Dr. Amerman read a paper on "My Sphygmomanometer. What It Tells Me." This was purely a scientific paper and showed wide preparation. The practical use of the instrument was brought out in the discussion, which was good, especially the remarks of Dr. Major, who freely discussed the subject from all phases.

Dr. Ralph Major read a paper on "Endocarditis Lenta." He said he was of the opinion that the disease is caused by streptococci viridans and that the same cocci are the cause of rheumatic fever. He regarded acute rheumatism as an infection and said the old theory as to the cause of the disease has long been abandoned. The doctor exhibited a heart showing the changes in its structure brought about by these cocci and also had microscopical specimens from this heart.

Dr. Howard Hill gave us one of his very interesting lectures on the female pelvic organs, especially concerning the descent of the uterus with cystocele and rectocele in relation to lacerated perineum. This lecture was illustrated by drawings that made his talk not only plain, but very interesting.

His method of making a diagnosis between suppurative salpingitis and tubal pregnancy when doubt arises is to make an opening in the posterior cul-de-sac with a pair of scissors. If blood escapes a diagnosis of tubal pregnancy is made; if pus appears then pus tubes are suspected. In one case he operates through the abdomen; in the other he drains per vaginam. He also spoke of impassable stricture of the urethra with retention. In these cases he discards the trocar and cannula, makes his puncture above the tubes with a pair of sharp pointed scissors, spreads them and introduces the drainage tube into the bladder. He uses novocain in 1 per cent. solution during this little operation.

A very interesting clinic was held by Dr. William F. Kuhn of Kansas City. A case of primary lateral sclerosis which had been regarded as a case of diphtheritic paralysis was shown. Another was a case of "habit tic" in a young man which had been regarded as chorea. The doctor soon made the diagnosis from the fact that in habit tic the movements can be controlled; in chorea, the opposite. A woman presented herself who is suffering from senile changes and deficient in orientation, causing her people much anxiety when she becomes lost.

As we had reversed the program, Dr. Kuhn's lecture on "Why Some People Become Insane" was not dealt with in extenso. But what he did say was

certainly very interesting. He dealt with the subject from the standpoint of heredity, eugenics, etc. He spoke of the law of heredity from Mendel's standpoint and illustrated by a card, which is as follows:

LAW OF HEREDITY (Mendel)

D=Normal Factor
R=Recessive Factor
Father Mother Children
D+D×D+D=DD
D+D×D+R=DD+DR
D+R×D+R=DD+2DR+RR
D+R×R+R=DR+RR
D+D×R+R=DR
R+R×R+R=RR

Dr. Kuhn was asked the question, among others, "How would you diagnose between a hemorrhage and an embolus of the brain?" His reply was that hemorrhage commonly occurs in the daytime, often after excessive exertion or straining and not necessarily in very old people, while embolus obstruction usually occurs in quite old people during the night while asleep, the patient awakening to find himself paralyzed. In giving a definition of insanity, the doctor showed that he likes to read Shakespeare and quoted Ophelia: "Now see that noble and most sovereign reason, like sweet bells jangled, out of time and harsh"; and that of Polonius: "Your noble son is mad; Mad call I it; for, to define true madness, What is't but to be nothing else but mad?" Then the doctor quoted in full the definition of madness as given by Maudsley, which is too long to quote and which all know, or can look up.

Drs. Hill, Kuhn and Major were given a vote of thanks for their kind attendance and Drs. Kuhn and Major were elected honorary members, this honor having been heretofore conferred upon Dr. Hill.

On motion the society adjourned.

E. A. DULIN, M.D., President.

BRING YOUR POCKET CARD.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

STANDARD RADIUM SOLUTION FOR DRINKING.—A solution of 2 micrograms of radium and 1.3 mg. barium chloride per bottle of 60 c.c. For "Actions and Uses" see the article on radium in New and Nonofficial Remedies. In view of the small barium content, it is claimed that the physiologic action of barium may be ignored. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, April 17, 1915, p. 1325).

STANDARD RADIUM SOLUTION FOR BATHING.—A 5.2 per cent. barium chloride solution containing radium chloride equivalent to 4.2 micrograms of radium per bottle. For "Actions and Uses" see the article on radium in New and Nonofficial Remedies. The barium in the solution is said to have no effect. The contents of a bottle, containing 4.2 microcuries or 10,000 Mache units are used for a bath. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, April 17, 1915, p. 1325).

STANDARD RADIUM EARTH.—A mixture consisting chiefly of silica and small quantities of carnotite, 450 gm. containing 0.45 micrograms of radium in the form of radium sulphate. For "Actions and Uses" see the article on radium in New and Nonofficial Remedies. For use the earth is mixed with water and heated for a time. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, April 17, 1915, p. 1325).

STANDARD RADIUM COMPRESS.—A compress containing 225 gm. of a mixture consisting chiefly of silica and barium sulphate containing radium sulphate equivalent to 15 micrograms of radium. For "Actions and Uses" see the article in New and Nonofficial Remedies on radium. Being applied wet, it is claimed that the action is partly due to beta and gamma radiation of the radium salt and partly to the radium emanation which is dissolved out by the water. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, April 17, 1915, p. 1325).

PROPAGANDA FOR REFORM

PEACOCK'S BROMIDES.—A report of the Council on Pharmacy and Chemistry points out that Peacock's Bromides (The Peacock Chemical Co.), said to contain the bromides of potassium, sodium, ammonium, calcium and lithium equivalent to 15 grains of potassium bromide per fluidram, is secret in composition in that the amounts of the individual bromides are not stated. The report contradicts the asserted uniformity of the preparation and the claim of superiority. It questions the asserted advantage of a mixture of bromides over a simple bromide solution and holds that, if there were any advantages in prescribing such a mixture of bromides, the physician should regulate their proportions. The report further points out that the therapeutic claims are misleading and not in accordance with modern teachings and practice. Thus while the Peacock company advises the liberal use of bromides in the treatment of epilepsy, the best clinical teaching advises the avoidance of bromides as far as possible (*Jour. A. M. A.*, April 3, 1915, p. 1177).

CHIONIA.—A report of the Council on Pharmacy and Chemistry discusses the claims made for Chionia (The Peacock Chemical Co.), said to be "A Preparation of Chionanthus Virginica"—a drug which is generally conceded to be worthless and which has been the subject of an unfavorable report by the Council. While claiming Chionia to be a "potent hepatic stimulant," the exploiters appear to appreciate its inefficiency, for it is advised to combine the nostrum with drugs of recognized potency, such as the heart tonics and laxatives in passive congestion of the liver, mercurial purge, podophyllin or sodium phosphate in "Biliousness," etc. (*Jour. A. M. A.*, April 3, 1915, p. 1178).

DR. MAY'S FORMULA.—Dr. May's Formula, formerly called May's Epilepticide, is sold on the mail order plan by Dr. W. H. May Medical Laboratory, New York. Examination in the A. M. A. Chemical Laboratory indicated that this "epilepsy cure" contains ammonium bromide and sodium bromide as the essential constituents, the bromide content being equivalent to 15 grains of potassium bromide per fluidram (*Jour. A. M. A.*, April 3, 1915, p. 1178).

HAGEE'S CORDIAL.—The Council on Pharmacy and Chemistry reports that Hagee's Cordial of the Extract of Cod Liver Oil Compound (Katharmon Chemical Co.) has neither the nutritive qualities nor the reconstructive efficacy of cod liver oil and that it is worthless for the conditions for which it is advertised. Recent experiments having shown that cod

liver oil, like butter and egg yolk, possesses certain growth-promoting properties not found in some other fats, the promoters of Hagee's Cordial claim these properties of cod liver oil for their extract. The Council has previously expressed the opinion that cod liver oil owes its value in the main or entirely to its fatty constituents. Now the Connecticut Agricultural Experiment Station has demonstrated that the growth-promoting properties of cod liver oil are not to be found in Hagee's Cordial (*Jour. A. M. A.*, April 10, 1915, p. 1262).

WAMPOL'S PREPARATION.—Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver (H. K. Wampole Co., Inc.) is marketed under a non-quantitative and therefore practically worthless statement of composition. Experiments carried out at the Connecticut Agricultural Experiment Station have demonstrated that the Wampole preparation, which also contains extract of malt and sugar, does not possess the advantages over ordinary cod liver oil as a source of nutriment, as claimed. Neither did the Wampole preparation appear to possess to any marked degree the reconstructive properties of cod liver oil, butter fat and egg yolk. The Council on Pharmacy and Chemistry held Wampole's Perfected and Tasteless Preparation of an Extract of Cod Liver ineligible for New and Nonofficial Remedies because, contrary to claim, it lacks both the nutritive and reconstructive properties of cod liver oil, and because it is marketed under an indefinite name and under unwarranted claims (*Jour. A. M. A.*, April 10, 1915, p. 1262).

THE ELECTRO-CHEMICAL RING.—A postoffice fraud order has put a stop to the sale of this silly contrivance. This ring, put on the market by the Electro-Chemical Ring Co., Toledo, O., was found to be made of ordinary iron. It was claimed to cure diseases caused by acid in the blood, among which were stated to be Bright's disease, diabetes, epilepsy and cataract (*Jour. A. M. A.*, April 10, 1915, p. 1263).

DR. CRONEY'S SPECIFIC FOR EPILEPSY.—This epilepsy "cure" is sold on the mail-order plan by Dr. James T. Croney of Columbus, O. Examination in the A. M. A. Chemical Laboratory showed it to be a solution containing ammonium bromide and potassium bromide as essential constituents, containing bromide equivalent to 16.9 grains potassium bromide per dose of two teaspoonfuls (2 fluidrams). Like other epilepsy "cures," Croney's Specific for Epilepsy is a bromide mixture and is both worthless and dangerous (*Jour. A. M. A.*, April 17, 1915, p. 1344).

THE QUALITY OF BLAUD'S PILLS.—An examination of the various brands of Blaud's pills supplied by manufacturing houses, made in the A. M. A. Chemical Laboratory, refutes the commonly assumed instability of ready made Blaud's pills. On the other hand it is shown that the Blaud's pills of the market are not very reliable as to the amount of iron present, the variation ranging from 77 to 183.2 per cent. of the claimed amount of ferrous carbonate. The different brands also differed widely in their ease of disintegration. The special forms, such as the "nascent" preparations, the "soft mass" pills and the gelatin encapsulated oily suspension, sold as "Frosst's Blaud Capsules," showed no advantage over the ordinary kind (*Jour. A. M. A.*, April 17, 1915, p. 1344).

LACTOBACILLINE OMITTED FROM N. N. R.—The Franco-American Ferment Co. is offering its Lactobacilline preparations direct to the public. The company has distributed circulars in which the public is informed that auto-intoxication is the cause of innumerable ills, that the Bulgarian bacillus is a "wonderful corrective or remedy" for such conditions and that the Lactobacilline products and — by inference —

the only reliable products. In view of the action of the Franco-American Ferment Co. and the tendency to cause the public to exaggerate slight ailments into alarming conditions, the Council on Pharmacy and Chemistry has deleted the Lactobacilline products from New and Nonofficial Remedies (*Jour. A. M. A.*, April 17, 1915, p. 1346).

OLIVINE.—Olivine was a liquid soap put on the market by the To-Kalon Manufacturing Co., Syracuse, N. Y. It was declared misbranded under the Federal Food and Drugs Act because, contrary to claim, it was not made from olive oil, because boro-glycerine was absent and because it had neither antiseptic nor germicidal action (*Jour. A. M. A.*, April 17, 1915, p. 1346).

FRECKELESS.—Freckeless, J. E. Barry, Paris, Texas, was sold for the removal of freckles, sunburn, tan, etc. It was found to be a petrolatum ointment of bismuth subnitrate and ammoniated mercury. Freckeless was declared misbranded under the Foods and Drugs Act because it was not harmless as claimed and because it was not a skin food, as claimed (*Jour. A. M. A.*, April 17, 1915, p. 1346).

VERACOLATE.—The Council on Pharmacy and Chemistry reports that "Veracolate (plain)" (The Marcy Co., Boston, Mass.) is semi-secret in composition, unscientific in combination and exploited under unwarranted claims. It reports that the same criticisms apply to "Veracolate with Pepsin and Pancreatin" and "Veracolate with Iron, Quinine and Strychnine." For "Veracolate (plain)" the following non-quantitative formula is given: "A compound containing the bile acids, sodium glycocholate, sodium taurocholate with cascara sagrada and phenolphthalein." "Veracolate with Pepsin and Pancreatin" is said to contain, in addition to the indefinite "Veracolate," the two mutually incompatible ferments, pepsin and pancreatin, and oil of peppermint. The complexity of "Veracolate with Iron, Quinine and Strychnine" has increased so that this unscientific mixture is claimed to contain seven constituents. These products are discreditable to the medical and pharmaceutical profession alike and their use is against the public good (*Jour. A. M. A.*, April 24, 1915, p. 1440).

TAUROCOL.—The Paul Plessner Co., Detroit, Mich., markets Taurocol and Taurocol Compound Tablets. The company makes a pretense of giving the formula — minus any quantities — thus: "Taurocol is a combination of bile salts, extract of cascara sagrada phenolphthalein and aromatics." Taurocol Compound Tablets are said to contain, in each, "Taurocol (Bile Salts)" gm. .1296, "Pepsin 1-3000" gm. .0324, "Pancreatic Ext." gm. .0324, "Extract Nux Vomica" gm. .0081 and "Aromatics" q. s. The Council on Pharmacy and Chemistry points out that the composition and the therapeutic properties claimed for the preparations are essentially the same as those claimed for Veracolate and Veracolate with Pepsin and Pancreatin. It reports that the objections made to these also apply to Taurocol and Taurocol Compound Tablets (*Jour. A. M. A.*, April 24, 1915, p. 1441).

THE CONVERSE TREATMENT.—This is a Columbus, Ohio, epilepsy "cure." An examination in the A. M. A. Chemical Laboratory showed that each 100 c.c. contained 7.3 gm. ammonium bromide, 5 gm. calcium bromide and 8.7 gm. potassium bromide, the bromide content being equivalent to 14.5 gm. potassium bromide per fluidram (one teaspoonful). Despite this bromide content the exploiters have in the past stated the epilepsy cures containing bromides "tend to aggravate the trouble in the long run" (*Jour. A. M. A.*, April 24, 1914, p. 1441).

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E. J. GOODWIN, M.D.,
 EDITOR

PUBLICATION COMMITTEE { W. H. BREUER, M.D., Chairman
 { S. P. CHILD, M.D.
 { M. A. BLISS, M.D.

ORIGINAL ARTICLES

BLOOD PRESSURE IN PREGNANCY AND LABOR *

F. HENRY RAAB, M.D.
 KANSAS CITY, MO.

About one hundred and seventeen years after Harvey's first description of the circulation, we find the beginning of blood pressure studies. From the direct method, by opening the blood vessel for insertion of the connecting cannula, to the present more suitable and highly developed self-registering sphygmomanometers is quite an advance.

With these modern sphygmomanometers we are enabled to obtain the maximum systolic and the minimum diastolic pressure of the arteries, and then calculate by subtraction the pulse pressure or blood pressure amplitude.

Up to the present time there have been numerous examinations made in the various diseases; the results obtained are not all alike, which can partially be explained by the use of so many different varieties of apparatus, partially also due to the more or less necessary practice and adaptability in the use of the apparatus.

It is sometimes impossible to get identical conditions of observation in these cases, but the mere fact that more of the observations are made not on patients resting in bed, but on patients who are either working in their homes or else had walked to the consultation room would prove that these estimates of blood pressure would give too high a reading, rather than too low.

The systolic and diastolic pressure are taken as follows in mercury instruments: Systolic—Height of mercury taken at just the instant that the pulse wave ceases as perceived by the examining finger. Diastolic—At the point where the

examining finger can just still perceive the pulse wave.

Blood pressure reading by the Korotkow auscultatory method is at the present undergoing such a change and data obtainable by these methods is as yet insufficient.

In Prof. Döderlein's clinic, Munich, a very careful study of quite a number of cases was made and data obtained as follows (Sakurai: Beitr. z. Geburtsh. u. Gynäk., 1909, xix, 498):

Mean physiological pressure in non-pregnant women.
 Systolic pressure106 mm. Hg
 Diastolic pressure102.8 mm. Hg
 Pulse pressure 3.2 mm. Hg

Pressure index during pregnancy.
 Systolic pressure118.6 (12.6 increase)
 Diastolic pressure112.8 (10. increase)
 Pulse pressure 5.8 (2.6 increase)

Pressure index in separate stages of labor.
 (First stage of labor)
 Systolic pressure122.8 (4.2 further increase)
 Diastolic pressure118.6 (5.8 further increase)
 Pulse pressure 4.2 (1.6 decrease)

(Second stage of labor)
 Systolic pressure125.1 (2.3 further increase)
 Diastolic pressure121.2 (2.6 further increase)
 Pulse pressure 3.9 (0.3 decrease)

(Third stage of labor)
 Systolic pressure123.2 (1.9 decrease)
 Diastolic pressure118.4 (2.8 decrease)
 Pulse pressure 4.8 (0.9 increase)

(Period)
 Pressure index in puerperium (taken several days after birth)
 Systolic pressure110.8 { so almost normal
 Diastolic pressure106.4 {
 Pulse pressure 4.4 (3.2 still noticeably high)

Blood pressure readings during labor pains are the most difficult to obtain accurately. When labor is instituted the pressure rises and this rise in pressure is in the form of waves corresponding to the periods of uterine contraction. In the first severe labor pains the pressure may rise to from 200 to 210 mm. Hg, returning almost to normal during the remissions. Later in labor pressure of 230 to 240 mm. Hg are seen but in the last stages of labor there is but little fall of the pressure, the greatest being drops of 30 to 40 mm. Hg, never returning entirely to the normal. Immediately after the rupture of the membranes there is a drop of

* Read before the Jackson County Medical Society, March 11, 1915.

pressure about 10 to 20 mm. below the original, *i.e.*, a fall of 40 to 60 mm. Hg; more when there is hydramnios. When the pain becomes more frequent and relaxation of the uterus is not complete the pressure does not fall to normal between the attacks but rises as one pain follows the other. The highest blood pressure is reached at the time of appearance of the head, about 60 to 100 mm. Hg above the original pressure. After the birth of the child, pressure falls suddenly to from 10 to 20 mm. Hg below the original level, rises again for about one-half minute and then falls again. After this there are variations observed corresponding to the uterine contractions, the stronger the contraction the lower the pressure, the difference being 5 to 20 mm. Hg. Hemorrhage of moderate character has little effect on the pressure, but delivery of the placenta causes a fall below the original level. However, when the labor has been particularly difficult with considerable hemorrhage the pressure after delivery may be lower than normal but this rises so that on the following day it is again at its normal level. Vasquez reports never to have observed the progressive return of blood pressure. He emphasizes most strenuously that there is not either antepartum or postpartum a physiological hypertension, and that only during labor itself is the pressure elevated as the necessary result of effort, and he insists that any hypertension before or after labor is an index of a pathological state.

Eclampsia

Vasquez and Nobecourt (Bull. et mém. Soc. méd. d. hôp. de Paris, 1897, xv, 117) reported some of the first important work on blood pressure in eclampsia and their results have stood the test of time fairly successfully. They demonstrated that hypertension is a premonitory sign of eclampsia. Also that as long as the blood pressure remained at a normal level (130 to 140 using the Potois and Gärtner's instrument) albuminuria caused no great fear of eclampsia. The prognostic sign of utmost importance is hypertension and not urinary findings. Further, that every woman who in the course of pregnancy or after delivery exhibits increased tension is in danger of eclampsia whether the urine contains albumin or not. During eclampsia persistence of hypertension indicates return of a crisis even if other signs are reassuring. Even when eclampsia appears to be well controlled, cure can only be stated as having been accomplished when the arterial pressure returns to normal.

Donaldson (Jour. Obst. and Gynec. Brit. Emp., 1913, xxiv, 133) considers high blood pressure in albuminuric cases a protective mechanism to aid in the excretion of toxins, and that in purely toxic cases pressure tends to

fall quickly to normal after delivery. In proportion as the kidney is involved the pressure remains high. The rising blood pressure in spite of treatment indicates to him the immediate termination of pregnancy.

Beau (Thesis, 1906) quotes a case in which blood pressure observations were made during pregnancy, and about one week previous to albumin appearing in the urine a marked rise in blood pressure was noticed. This is some evidence that the systolic pressure is some indication of the severity of the toxemia. Skeel in an article on pre-eclamptic toxemia confirms this observation. Vogeler also finds that all his cases of eclampsia had a high blood pressure.

Observations of blood pressure have been made also on cases of pernicious vomiting in which labor had to be induced. In this condition the pressure is not raised, a fact that would suggest that the toxin in these cases differs from that of albuminuric and eclamptic cases. Blood pressure estimated in cases of glycosuria complicating pregnancy showed nothing abnormal.

Bailey (Surg., Gynec. and Obst., 1911, xiii, 505) and Janeway (Clinical Study of the Blood Pressure, 1904, D. Appleton & Co.) both agree that a blood pressure of 160 mm. Hg does not exist in normal pregnancy. Goodman (Blood Pressure, Lea & Febiger, 1914) believes 160 is too high a limit and prefers to view with suspicion any blood pressure that persistently exceeds 140 mm. Hg by auscultatory methods. This statement must not be misinterpreted. Sudden rises in blood pressure from excitement, exertion, change of position, digestion and the variations which we know occur in the pregnant as well as in the normal woman are of course excluded as they do not give rise to persistent hypertension. Vasquez's warning should sound in every ear that "every woman who in the course of pregnancy or after delivery exhibits increased arterial tension is in danger of eclampsia." Bailey says, "While it is generally known that cases of eclampsia at the time of convulsions usually have high blood pressure still convulsions occur when pressure is as low as 155." The latter made his readings by palpatory methods, which would make the pressure about 160 mm. when estimating by auscultatory method.

Exception: Although eclampsia is usually accompanied by high blood pressure there are exceptional cases with a practically normal blood pressure. Slemmons and Goldborough (Zentralbl. f. Gynäk., 1908, xxxii, 699) report a case of a multipara who several times had a systolic pressure of 180 mm. Hg, and an average pressure of 169 mm. during the later days of pregnancy without showing any evidence of

toxemia. Lynch (Surg., Gynec. and Obst., 1913, xvii, 472) also reports two cases of eclampsia developing in women whose blood pressure readings had been found normal by him. Therefore while oncoming eclampsia is usually associated with high blood pressure, it may occur without warning in exceptional cases. Just as there are many persons who in spite of a continued high blood pressure have little or no discomfort and few definite signs of serious disease, so also one may find women who during the course of pregnancy show a sustained high blood pressure with transitory or absent concomitant phenomena and at no time present the picture of a mild toxemic state. These to my mind should be separated from the pregnant cases showing even a moderate elevated blood pressure accompanied by some or all of the familiar signs of toxemia of pregnancy. This again shows to my mind the necessity of watchful general clinical observation in addition to blood pressure studies.

Low Blood Pressure: In this group are placed all cases in which pressure falls below 100. In many of the normal cases immediately after delivery one would see a drop, but it is without significance, unless persisting or going below 90. They have been classified as follows: A, cases of low blood pressure without signs of hemorrhage; B, cases of placenta praevia with profuse hemorrhage; C, cases of otherwise prolonged bleeding, as miscarriage. D, cases with prolonged chloroform anesthesia.

Extremely low blood pressure not due to hemorrhage may be a forewarning of shock following labor. The collapse sometimes following labor is thought to be due to the overstimulation of a damaged heart. Although some cases with low blood pressure, say 90 systolic, will pass through the normal labor, it behooves us to be extremely careful of these cases, especially if associated with a low hemoglobin index, as it is difficult to raise blood pressure and hemoglobin during pregnancy.

Brunton (Med. Press and Circ., 1910, N. S., xc, 459) has shown that the feelings of patients with low blood pressure varies, while some work well and easily with blood pressure between 90 and 100, others tire and are incapable of prolonged manual labor.

Therefore in conclusion I would like to state that blood pressure readings when correctly interpreted and taken in association with the carefully weighed clinical symptoms can be of extreme service in pregnancy and labor, especially if taken by the modern Korotkow auscultatory method, which is placing blood pressure on a more and more scientific basis.

1004 Rialto Building.

THE PRESENT STATUS OF COLOR BLINDNESS WITH DEMONSTRATION OF A NEW TEST*

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The first case of color-blindness noted in literature occurred in the practice of Dr. Tuberville in 1684. The first accurate description of the anomaly was given by Dalton, the celebrated English chemist, who was himself red-blind. He saw no difference between the color of a laurel leaf and that of a stick of red sealing-wax, and on one occasion appeared at a Quaker meeting of which he was a member in the usual drab coat and small clothes of the sect, with a pair of flaming red stockings.

Until comparatively recent times color-blindness was regarded as a scientific curiosity and of little practical importance. In 1837 Seebeck of Berlin began the systematic collection of cases and had the patients arrange in the order of their resemblances to each other, about 300 pieces of colored paper. He also used pieces of colored glass and wool as test objects. In 1875 a serious railway accident occurred in Sweden and at the investigation which followed it was found that color-blindness was one of the principal causes of the disaster. As a result of this accident Professor Holmgren, the Swedish scientist, began a study of the subject and after reviewing the work of Seebeck and Wilson of England, devised his well-known colored worsted test, which is now in general use.

Color Perception.—The part of the eye which is chiefly concerned in the perception of light and color is the retina, an outcrop of the brain, to which it is connected by the optic nerve. The sensitive elements of the retina are the rods and cones, which are distributed in a peculiar manner. At the fovea, where vision is most distinct, there are only cones; at the borders of this region each cone is surrounded by a ring of rods; the number of rings of rods round each cone increases as the periphery is approached and at the margin only rods are found. A study of the field of vision shows that white and black can be seen up to the periphery, blue and yellow about 10 degrees less, while the fields for red and green are smallest of all and occupy only the central half of the entire field. We therefore conclude that the function of the rods is in some way related to the reception of light stimuli of feeble intensity, and that the function of the cones is concerned with distinctness of vision and with the perception of color.

* Read before the St. Louis Medical Society, Nov. 28, 1914.

Theories of Color-Perception.—Various theories have been advanced to account for the phenomena of color-perception and color-blindness. Each has its adherents, but it cannot be said that any one of them satisfactorily explains all the known facts. The most noted theory and the one probably having the greatest number of adherents is the Young-Helmholtz theory. This theory supposes the retina to contain three sets of color-perceiving cones, corresponding to the three primary colors—red, green and violet, and regards all other colors as varying mixtures of these. Every kind of light excites the red, green and violet perceiving cones at the same time but with different degrees of intensity. For example, the pure red of the spectrum strongly excites the red perceiving

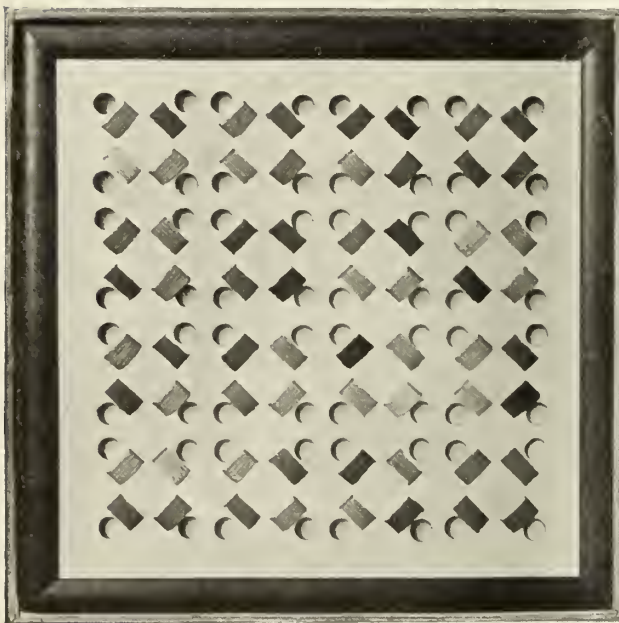
have the physiological basis of the sensation of light, and in the quality of the impulse the physiological basis of the sensation of color. The impulse being conveyed along the optic nerve to the brain, stimulates the visual center, causing a sensation of light, and passing on to the color-perceiving center, causes a sensation of color. But though the impulses vary in character according to the wave-length of the light causing them, the color-perceiving center is not able to discriminate between the character of adjacent impulses, the nerve cells not being sufficiently developed for the purpose. At most, seven distinct colors are seen, while others see in proportion to the development of their color-perceiving centers, only six, five, four, three, two or one. This causes color-blindness.

For testing the acuteness of color-vision the Holmgren worsteds are generally used. As some cases of defective color-sense may occasionally pass the Holmgren test, it is necessary that another test with a lantern should be used to determine the color-sense of the macular region, where the colors of signal lights must be quickly recognized.

In 1913 I was appointed by the chairman of the Ophthalmic Section of the American Medical Association one of a committee to consider the question of a better standard of examination to determine the acuteness of the color-sense and a more accurate test for general use by public service bodies or other organizations whose employees are required to use colored signals. My duty was to report on the methods employed by the railways and marine service of the United States and Canada. I found the Holmgren colored worsteds or one of its modifications in universal use. When properly used according to directions the Holmgren worsteds have proved to be practical and reliable. The most serious objections to its use are as follows:

1. The worsteds become soiled by constant handling, so that the more delicate shades can hardly be distinguished one from the other.

2. The method of recording the skeins selected by the candidate is crude, laborious and liable to lead to error. In order to overcome these objections I have constructed a test in which the worsteds are not handled and the candidate makes a permanent record of his own color-sense. It consists of a square box divided into an upper and a lower half. The upper half of the box contains the green test and consists of a color-board made up of all the different colors, shades and tints likely to be mistaken by the color-blind for green. The lower side of the box contains the rose test and consists of a color-board made up of all the different colors likely to be mistaken for rose. Each color-board contains 64 patches of color. Near each patch of colored worsted is a circu-



The Jennings self-recording test for the detection of color blindness.

cones, to a less degree the green, and still less the violet—hence a sensation of red. The latest theory, and one which is gaining ground rapidly, is that of Edridge-Green of London, which is as follows: A ray of light impinging on the retina liberates the visual purple from the rods and a photograph is formed. The rods are concerned only with the formation and distribution of the visual purple not with the conveyance of light impulses to the brain. The decomposition of the visual purple by light chemically stimulates the ends of the cones (very probably through the electricity which is produced) and a visual impulse is set up which is conveyed through the optic nerve fibers to the brain. The character of the impulse set up differs according to the wave-length of light causing it. Therefore, in the impulse itself we

lar opening in the color board which is for the purpose of registering the particular patch of color chosen by the candidate. This he does by inserting a pointed pencil through the opening and punching a hole in the record sheet beneath. The openings of the color boards are so arranged that the records of both the green and rose tests are made on a single sheet.

Method of Making the Test.—The cover of the green side of the box is removed, the color-board lifted out, a record sheet is inserted and the color-board replaced. Care must be taken to see that the top of the color-board, marked on the back, "Test No. 1, Green," corresponds to the top of the record sheet. The box is now turned around several times until all sense of direction is lost. The green test skein, fastened to the inside of the box lid, is placed at a distance of 2 feet and the candidate is given a pointed pencil and requested to look along each row of colored patches and when he sees the test color or one of its lighter or darker shades, he is to place the point of the pencil in the opening and punch a hole in the paper beneath. He is made to understand that he is not expected to find an exact match for the test skein, but that he is to indicate all the color patches that appear to him of the same general color as the test skein, both those that are lighter and those that are darker in shade.

Test No. 1 having been completed, the record sheet is removed, the cover is replaced and the box turned over, exposing Test No. 2, the rose. The same record sheet is placed under the rose color-board, care being taken to have the top of the record sheet and the top of the color-board marked on the back, "Test No. 2, rose," correspond. The rose test skein is now displayed and the test proceeds as before. The record sheet having been removed it will be seen that if the candidate has a perfect color-sense there will be a punch mark in every space marked by a letter G, indicating green, and R, rose. Any punch mark in a blank space indicates a mistake. If the mistake is on a line with the letter G, the mistake was made in the green test. If the mistake is on a line with the letter R, the mistake was made in the rose test. By replacing the record sheet under the color-board and noting the punch marks, one is able to see exactly what colors were selected to match the test skeins.

Advantages:

1. The candidate makes a permanent record of his own color-sense.
2. The worsted is not soiled by constant handling.
3. Two separate tests are made and the colors liable to confusion are placed together.
4. He must judge by color alone and is not able to compare the colors with the test skein.

5. There are no odd and even numbers to give a clue.

6. The examiner does not have to make a record of the colors selected.

7. No important color can be lost.

8. While the patches of color are sufficiently large to allow of ready selection, yet they are small enough so that cases of central color scotoma may be discovered.

9. The test is so simple that the examination may be conducted by a layman.

10. Two or more records of the examination can be made at the same time.

The self-recording color test is made by A. S. Aloe Co., St. Louis.

Carleton Building.

DISCUSSION

DR. GIVEN CAMPBELL: Can these tests be made under artificial light with much satisfaction?

DR. JENNINGS: As a rule they are made by daylight. It is difficult to judge color accurately at night.

DR. F. R. FRY: Have you tried these colors on hysterical patients, and if so, how do they work?

DR. JENNINGS: I have not as yet tested hysterical patients with this new test. Sets have been ordered by the Ohio Bureau of Juvenile Research and the Department of Nervous Diseases, General Hospital, Boston, so that no doubt this test will be of value in widely different fields.

SOME NEURORETINAL CONDITIONS OF MINOR GRAVITY

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Every oculist is called upon almost daily, by patients in more or less distress, to alleviate the common symptoms of eyestrain, viz., headache, pain, distortion of images, and photophobia. Situated in a school town, I am more often confronted with these complaints than probably are those practicing where students do not predominate. Constant strain of the ciliary muscles to overcome a refractive error of greater or less degree, together with poor or faulty illumination, will by the constant effort of accommodation soon produce a muscular trouble which is readily taken up by the retinal vessels, thereby producing an engorgement of the retina, which, owing to its exceedingly delicate structure, becomes easily irritated by the action of any light thereon, thus producing the very common symptom of photophobia.

If these patients are taken in hand at an early stage, when they first begin to notice eye effort in reading, it has been my experience that they will not only thereby be given relief but escape more serious trouble subsequently, such as headache and cerebral pain; for neglect of properly fitting lens in cases of astigmatism,

hyperopia, or myopia or compounded conditions of one-half diopter or more, will, in one who subjects his eyes to excessive strain, always produce a retinal hyperemia, and sometimes inflammation, which in turn exhibits the various subjective symptoms above enumerated.

Then too we must not neglect to take into consideration the patient's general state of health; for it is known to all that much depends on the physical fortitude for the ultimate or timely outcome of these retinal deficiencies. Our success depends to a large degree upon our knowledge of the muscular strength of the ciliary and external ocular muscles. If we have, for instance, a patient with great physical weakness who is suffering from an error of refraction, we know that his correction must more nearly approach "full correction," for it is the rule in these cases that to overcome even the smallest error in the effort of concentration is attended with great difficulty, thus giving rise to their trouble. Reversely, we often find cases having considerable refractive error whose muscular ability is up to normal. It is in these instances that we must leave some task for the muscles to perform or else we are confronted with the condition of "over correction." This ability to estimate the whole error of refraction and then to reach a proper conclusion as to the amount of correction each case will stand constitutes the most difficult task confronting a refractionist.

A very delicate point of early differentiation in these retinal manifestations is made apparent when we are called upon to render a prognosis as to the outcome of what is readily seen by the ophthalmoscope to be one of three things: hysterical amblyopia, incipient, extra- or intra-bulbar neuritis. I have recently had 2 cases of apparent choked disc, which, with only the appearance of the retina to guide me, were difficult of early differentiation. One yielded readily to antirheumatic treatment. Upon initial examination the vision in this eye was 20/200; the patient passed out of my notice with a vision of 20/20. The other case, ophthalmoscopically much more marked, was to the best of my knowledge resultant from abuse of alcohol and tobacco. I ordered total abstinence of these two articles with a result of some increase in vision. So far as my experience has been, there is a point in early examination when it is absolutely impossible to make a positive diagnosis of the trouble, but one must take time and by repeated inspections reach a well-guarded conclusion. Of course it is comparatively easy to render a positive and complete diagnosis after a case has gone on to more or less complete blindness or developed the retinal landmarks characteristic of organic trouble. It is well therefore for us to be thoroughly informed

on all phases of these conditions, for at best we are sometimes at sea.

In the case of Miss B., a school girl of 16 years, who came to me complaining of bilateral loss of vision, more complete in right eye than in the left eye, in which the test type of largest size was scarcely visible at normal distance, after applying all the tests, her color sense was only diminished in proportion to her loss of vision, her muscular balance was normal. On ophthalmoscopic examination nothing abnormal was evident in either eye with the exception of the whole retinal expanse showing an unusually dark appearance, which was probably due to her being of the decided brunette type. There was, however, no pathological lesion of the slightest in evidence. After some consultation with her family physician and subjecting her to the usual physical examination, I rather guardedly pronounced her trouble hysterical amblyopia. My diagnosis proved correct and in the course of a few weeks, during which time she changed her environments, her recovery was complete.

It has been my observation that we may oftentimes be confronted with a case of even mild retinitis, or hyperemia of the retina, which may present the appearance of a serious lesion elsewhere in the body, such as various kidney lesions, tuberculosis, or syphilis, yet on careful examination of any or all of the organs in question we are forced to admit the turbulent appearance of the retina was due solely to a gross error of refraction, abuse of eyes, or some occupational condition. Then it is only a matter of prescribing the proper lens or administering proper advice as to sanitary and hygienic procedure. I have even seen the retina so highly inflamed that the exudates filled the vitreous chamber to such extent as to render the outline and landmarks of the retina very indistinct. The dimness of vision is, of course, in proportion to the inflammatory products in the vitreous through which the rays of light must pass to reach the retina. These cases usually yield to treatment quite encouragingly, and after satisfying oneself that there is no systemic condition at fault, to give the proper lens, oftentimes amber tinted, advise light exercise and proper diet together with the leaving off of all eye work, will nearly always terminate in a happy recovery. The administration of iodid of potassium is also indicated to assist in the absorption of the inflammatory products.

This is only intended as a mere suggestion to some of the troubles that confront us as ophthalmologists. We all know that every case of this nature is a problem in itself and not infrequently requires the greatest tact and perseverance to enable us to reach an ultimate and true conclusion.

BLOOD TRANSFUSION

F. REDER, M.D.
ST. LOUIS

The subject of blood transfusion is not of recent origin. It is in no way a surgical measure that evidenced itself with the great surgical advance of the last forty years. In support of this statement it can be said that in 1492 a vain attempt was made to save the life of Pope Innocent the VIII by the operation of transfusion.¹

During the last four centuries the operation of transfusion has never been lost sight of as a possible surgical measure, but until recently it has failed of consistent results, largely attributable to the great disadvantage under which our ancestral surgeons performed their work. Practiced before the development of chemistry, physiology, pathology and bacteriology, before the period of good hospitals and surgical instruments, the operation must often have been fraught with surgical accidents of a lethal nature. It is due to the recent advance in the technic of vascular surgery that the operation of transfusion has been placed on a basis of reasonable safety. Mosso was one of the first whose experiments in this line attracted attention. Crile in 1898 followed up the experiments of Mosso, but found them impracticable, and the work lapsed until some years later, when the work of Payr, Carrel and Guthrie gave convincing proof that blood could be transferred without accident by their individual methods. Crile, being activated by these results, was soon able to demonstrate clinically the successful transfusion of blood with his special anastomosis cannula by uniting the vascular systems of two patients in a manner that intima came in contact with intima only. With this demonstration many of the more serious difficulties attendant on a transfusion appeared to have been solved and the technic was accepted as a legitimate procedure.

Before entering on the detail of blood transfusion, it must be stated that there are two

methods by which the transference of blood from one individual to another can be practiced. These methods are known as the direct and the indirect. By the former the blood is conveyed directly and without exposure to the air from the vessel of one person to the vessel of another. By the latter it is first drawn and then injected, either as a whole or after being deprived of its fibrin. The direct method entails a surgical measure of much delicacy, whereas the indirect method is one practically free from surgical cares. Inasmuch as I desire to dwell on the direct method somewhat at length, I will be brief with my remarks relating to the indirect method.

As I interpret the meaning of the word transfusion, it would be technically incorrect to apply it to the so-called indirect method. It would be more fitting to this procedure to call it a blood transference. The blood is transferred by means of a syringe or a glass cylinder. With the syringe this is accomplished as you all know directly by piston pressure, whereas with the cylinder the blood is forced into the vein with the aid of air pressure. The flow is not a continuous one, such as we have in the direct transfusion. From its earliest inception the term has been misapplied, but its usage has not been misunderstood.

The indirect transference of blood is a very simple procedure when compared to the direct method. When accomplished with the syringe, not even a vein is severely traumatized. The vessel is simply punctured and the contents of the syringe gently aspirated into it. With the tube, however, a partial section of the vein, both of the donor and the recipient, becomes necessary.

No special training for the operator or his assistants is required in making the indirect transfusion. The technic can be acquired by any one who possesses a moderate amount of surgical skill.

There is no question, and it has been sufficiently often demonstrated clinically, that indirect transfusion possesses distinct advantages. Particularly is this true when it has been shown that the good results following a blood transfusion are not entirely due to the quantitative or functional reinforcement of the blood, but to the stimulating effect of the transfused blood, especially on the bone marrow.

The restoration of blood is accomplished by absorption of fluids from the tissues. This accounts for the feeling of thirst experienced in hemorrhage. The splendid results obtained by the indirect transfusion of defibrinated blood in obstinate bleeding, particularly in the newborn, give a convincing attest to this physiological problem.

It is assumed that in these fluids there exist certain substances; they have been called hemo-

1. This statement, however, must be accepted with severe limitations. A passage from Matthew's "Life and Times of Rodrigo Borgia" will assist us in gleaning a correct interpretation of the blood transfusion mentioned in connection with the attempt to save the life of Pope Innocent VIII.

"On the evening of July 25, 1492, the good-natured and incompetent Pope Innocent VIII passed away. It is related that during his last illness the operation for transfusion of blood was unsuccessfully performed. This, however, is an error, arising from the forgetfulness of two important facts: 1. The idea of this operation could not occur to any one to whom the circulation of the blood was unknown. 2. The phenomenon of the circulation of the blood was not discovered until the seventeenth century.

"Raynaldus and Infessura say that a certain Jewish physician undertook to restore the Pope's health; for this purpose he drew all the blood out of three young boys, who immediately died. With their blood he prepared a draught which, in spite of the doctor's protestations, failed to improve the sick pontiff's condition. The saving virtue of drinking human blood was no new idea."

poietins, meaning the formation of blood from lymph products, that are supposed to stimulate the bone marrow to increased production. This assumption has been based on the fact that it will require from two to five days to replace the loss of blood in a moderately severe hemorrhage, whereas fourteen to thirty days are necessary to restore the blood after a severe hemorrhage.

The direct method of transfusion claims the skill of the surgeon; not because it is an operation of any magnitude, neither does it invade an anatomical field where structures are vital or difficult of dissection. The reason is that the operative measure must embody all the essentials imperative to safety. The delicacy of touch with which these structures must be handled is a requisite of the first order. The attention to detail must be carried out in the most painstaking manner. The asepsis must be perfect, and the assistants must be exceptionally well trained. Has the operation of direct transfusion found much favor? Up to the present time this question must be answered negatively—and why? Simply because not enough of the biochemical properties of the blood are known. The field, however, is inviting and is full of promise.

Prior to the work of Crile, who put the direct blood transfusion on a basis of safety and practicability, the dangers and difficulties were such that Kronecker and Sander, actuated by the fact that the principal cause of death from hemorrhage was the decrease in blood pressure rather than the alteration of the component parts of the blood, recommended the use of physiological salt solution. At the present day with many surgeons this is still the practice of choice.

Exclusive of the operative measure, there is no doubt that much of the success in the direct transfusion rests with the donor. It is not an easy matter to obtain a proper donor. Kinship is not essential. It is well, however, that donor and recipient be near of an age when practicable. That the donor be constitutionally sound is of course an absolute requisite.

The great danger in the direct transfusion, and for that matter also in the indirect transfusion, is the formation of the blood clot. It is in this that the delicacy of the detail work is the prime factor in success. In liberating the blood vessel the utmost consideration should be exercised and no instrument that is prone to inflict the slightest trauma on the inner coat should be used. For this reason the free use of the gloved fingers is to be recommended. This may be somewhat contrary to the present rules of aseptic surgery, nevertheless the safety of the vessel is better assured, and in this particular operation the gloved finger, when possible, should supplant the instrument. With

experience the operator will soon find that he can readily dispense with some of the instruments that in his earlier work seemed necessary. For instance, the use of a soft tape, one-quarter of an inch in width passed beneath the vessel as it is being mobilized (Bernheim) can be used as a tractor, instead of catching the vessel with forceps with the attendant risk of bruising the intima. These are some of the slight injuries that invite the blood clot.

Another factor prone to the formation of the blood clot is found in the outer coat of the artery, the adventitia. When the vessel is severed, a procedure necessary in the direct transfusion, this fibrous coat hangs over the cut end of the vessel, which is usually in a collapsed state. Its ragged edges act as a sieve for the smallest drop of blood, thus making the formation of a clot an easy matter. The removal of this redundant adventitia on an even plane with the lumen of the vessel eliminates one of the dangers of blood clotting. It also facilitates the patency of the opening, as it removes a constricting influence.

Two requisites that have become indispensable in blood-vessel surgery are the salt solution and the liquid vaselin. It has been demonstrated that the rapid drying of the tissues during the dissection has a deleterious influence on the blood vessel, and that the gentle irrigation of warm salt solution will obviate this. To augment the nascent state of the tissues during the dissection, the other agent has been added, liquid vaselin, a neutral lubricant which keeps the tissues soft and pliable, and prevents a too rapid evaporation after the salt solution has been discontinued. The combination of these two agents can be used liberally as the organism is tolerant to almost any quantity.

After a satisfactory anastomosis of the donor's radial artery with the recipient's basilic vein has been made—and we assume that the operator has chosen the cannula method of Crile—what are some of the vital points to be taken into account? (I may state here that the operation is performed painlessly under local anesthesia.) There is a danger present and although regarded more of a theoretical than a practical menace, since it may occur it must not be overlooked. This danger lies in hemolysis, i. e., the disintegration and degeneration of the blood. The supposition is that there is formed a hemolysin, a substance capable of dissolving the red corpuscles of the donor's blood. This is a condition productive of thrombus, carrying with it symptoms such as dyspnea, cyanosis, hemoglobinuria, bloody diarrhea, disturbances of consciousness and the dangers of embolism.

Inasmuch as it is said that hemolysis apparently occurs only in disease, it would be of some value to determine before the operation

whether the blood of the donor is hemolytic for that of the recipient. Anent to this suggestion it has been demonstrated that the blood of one individual may hemolyze that of another in the test tube, but not in the body after transfusion, and vice versa. It will be seen that this situation remains a very unsatisfactory one and in the face of an emergency the danger of a probable hemolysis must, to a great degree, be disregarded. As I have stated before, more must be known of the biochemical properties of the blood before this operation can be based on a plane free from such dangers. For instance, the blood of a pregnant woman, although in splendid health, would appear to act strongly hemolytic on account of the presence of a proteolytic ferment.

Another discerning factor in the direct blood transfusion is the amount of blood given to the recipient. It is an extremely difficult matter to judge the amount of blood that has gone or is going over. Inasmuch as there is no instrument that will indicate an amount of blood transferred it rests with the experienced surgeon to determine by touch on the receiving vein the probable amount of blood that is being given to the recipient.

This knowledge and constant observation of the actual blood pressure (the blood pressure and pulse of the recipient is taken at intervals of every three minutes, that of the donor every five minutes) reported by the assistant, the general appearance of the patients (donor is considered a patient), and the actual time that the blood has been flowing, all this serves as a guide to the amount of blood going over, and the proper time to cease transfusing. This clinical picture, however, is governed by circumstances. Always considering that the patient is exsanguinated, a child will require less blood than an adult, and a woman less than a man. A large radial artery will discharge more blood than a small one under the same pressure. The blood pressure, because of the psychic disturbance in every operation of this kind, is by no means constant. All these conditions have a direct bearing on the time given for a transfusion. The time required may be five minutes and it may be an hour. For most transfusions the average duration of the flow is from twenty to forty minutes. The object to be obtained is to give enough blood to bring a pulse of 150-160 down to about 100 and to raise a blood pressure of 50-70 up to 110 or 120. It sometimes happens most unexpectedly that an overloading of the circulation has taken place during a transfusion. This must be carefully watched for as it may result in an acute dilatation of the heart. It manifests itself by precordial distress, dyspnea and rapidly increasing pulse. When such a condition manifests itself, the flow of blood must be immediately stopped

and kept in check till the heart has recovered. It must be resumed under the greatest precautions if it is resumed at all.

It can be said that therapeutically the outlook for the direct transfusion of blood is bright. In the hemorrhage of the new-born, in bleeders and in poisoning by illuminating gas, the results have been very beneficial. Its efficacy has been lauded in other morbid conditions, but the service has been only transitory—*anemia* and *leukemia*.

The field of usefulness in which it has given the greatest promise has been in the prevention and treatment of shock and in acute hemorrhage.

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OTITIC SINUS THROMBOSIS*

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Where there is the slightest suspicion or indication of any intracranial complication, the patient should be subjected to the most thorough examination possible. The mere statement of friends or even of the patient, that there is no suppurative trouble is not altogether trustworthy; for a purulent disease may exist long after the patient has regarded it as cured. In such cases or for that matter in any important otological examination, the status of the patient's hearing should always be carefully considered; if this is done important information will often be forthcoming.

On examination we often find purulent secretion, usually fetid in character, and the tympanum perforated to a greater or lesser extent. The interior of the middle ear is often filled with granulation tissue, polypi or cholesteatoma. It is of considerable significance, whether the perforation be marginal or central; the former is more frequently associated with bone necrosis and cholesteatoma and these two conditions are in the great majority of cases the *causæ morbi* of otitic complications. The inner wall of the tympanum should also be examined for caries or other signs which might indicate the coexistence of labyrinthine suppuration, in which case the posterior cranial fossa and sinus region is most probably the region involved. We should take note if pus comes profusely from the upper part of the tympanum.

The mastoid region must be carefully examined. Frequently nothing abnormal is found, but in some cases there may be swelling, pain on pressure, or a fistulous orifice. These, however, do not necessarily point to intracranial

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mischievous, but are circumstances favorable to thrombosis. When, as is frequently the case, the lining of the antrum and mastoid cells are chronically inflamed, softened, or eroded, and these spaces are occupied by decomposing purulent products swarming with pathogenic organisms, it is not surprising that intravenous infection should take place and that phlebitis and thrombosis with their effects should be set up in the sigmoid sinus, either by simple juxtaposition or through venous and lymphatic connections.

Small thrombi, charged with infective organisms, may be carried inwards from the veins of the mucous membrane of the ear or of the bone, until they project into the sinus where fresh formations may take place, and there may be a mural thrombus which may go on increasing until it plugs the sinus. The thrombi may form with or against the blood stream and may at first be sterile at the new or advancing point. Thrombi may extend from the sigmoid sinus down the internal jugular vein, in some cases as far as the superior vena cava, but they may also extend upwards, either anteriorly through the superior petrosal sinus or inferior petrosal sinus to the cavernous sinus and ophthalmic vein or posteriorly to the torcular and superior longitudinal sinus.

The network of veins encircling the internal carotid artery in the carotid canal, and the superior petrosal sinus, which are in immediate relation with the mucous membrane of the tympanum, may also, in purulent diseases, be involved in phlebitis and thrombosis. From these veins the thrombi may pass to the cavernous sinus. It has been suggested that thrombi with bacteria may be carried to the interior of the brain by the backward motion of the current of blood when the lateral sinus is obstructed or obliterated, giving rise to metastatic abscesses. Lastly, from the floor of the tympanum the septic process may directly reach the bulb of the internal jugular vein. In infants and young children the floor of the tympanum is usually very thin so that jugular bulb thrombosis is more common at that time of life.

Disintegration and Detachment of Thrombi.—So long as the thrombus is firm and solid, obstructing the circulation, the danger of general blood infection is not as a rule great; but when it becomes infected, soft and disintegrated, the broken down and septic thrombi are detached by the current of blood and become emboli in some near or remote part of the body, giving rise to fresh septic centers. In this way septic thrombi, swept on by the circulation, give rise to infarctions and metastatic abscesses, especially in the lungs. The kidneys, liver, spleen, joints or subcutaneous connective tis-

sue may, however, be the seat of such infective abscess formations. Thus the general mass of the blood may be infected, causing pyemia or septicemia. From the sinus on its median aspect purulent basic leptomeningitis may develop or cerebellar inflammation with abscess. External to the sinus a purulent collection may form separating the sinus from the osseous partition forming its groove and leading to erosion of the bone with the formation of granulation tissue. Intravenous local suppuration may take place at the sigmoid sinus and may require to be dealt with as an abscess.

Aseptic Thrombi.—It is to be remembered that thrombi, if aseptic, may be absorbed, leaving behind, it may be, thickening, contraction or obliteration of the sinus.

Infection through the Arterioles.—It is also possible that septic inflammation, originating in the arterioles of the mucous membrane of the ear, may be propagated along the walls of the vessels as far as main arterial trunks, such as the internal carotid, the internal auditory, or the middle meningeal, giving rise to infected coagula, which may be swept along by the blood current till an embolic purulent center is formed in the terminal twigs in the brain.

Symptoms of Septic or Infective Thrombosis of the Lateral Sinus.—The symptoms of intravenous infection are those which usually attend pyemic poisoning, modified here by the situation of the source of the toxemia.

Pain and Swelling in the Ear and Neighborhood.—Pain is often elicited by pressure or percussion over the posterior part of the mastoid, in the region of the sigmoid sinus or mastoid foramen, even when there is no evident mastoid disease. There is frequently also pain or pressure over the upper third of the posterior cervical triangle, in the situation of the condylar and deep veins of the neck. This part should always be examined, as the presence of pain here is distinctly significant. Over the upper part of the internal jugular vein pain is also often elicited by pressure; this is usually found earlier than the pain in the neck. At the same time at the edge of the sternomastoid muscle a hard, cord-like swelling may in some cases be felt, the thrombosed internal jugular vein. It is to be remembered, however, that general septic infection often exists without tenderness or swelling over the internal jugular, and probably the more prominent in the thrombus in the upper part of the internal jugular the less, for the time being, is the danger of general septic infection. In like manner when an abscess forms, as is sometimes the case at the late stage of the disease around the internal jugular, there is less danger of systemic infection. Such an abscess is due to infection of the cervical glands and cellular tis-

sue surrounding the vein and begins with a brawny swelling and matting together of the tissues, the purulent formation taking place under the deep cervical fascia. This should be distinguished from the suppuration which takes place in connection with Bezold's abscess. Edematous swelling caused by obstruction to the flow of blood through the emissary veins is sometimes seen extending from the mastoid process to the back of the head and even to the temporal region. Such swelling over the mastoid due to venous obstruction must not be confounded with mastoid periostitis. The mastoid vein is in rare cases dilated. The internal jugular vein and the veins of the neck and cheek may be at first dilated, with, in some cases, swelling of the cheek and eyelids owing to the overdistension. After a time this dilatation disappears through the establishment of the collateral circulation, which diverts the blood to the opposite internal jugular. This venous stasis may also produce a colorless swelling, very tender to pressure, on the side of the neck along the inner edge of the sterno-mastoid muscle.

Headache is in most cases a prominent symptom, although it is usually neither severe nor so long continued as in brain abscess or in meningitis. However, when the disease is complicated with meningitis, the pain may be much more intense and continuous, but the chills in this case may not be so marked.

The digestive system is generally more or less involved. There is in the great majority of cases sickness or vomiting in the early stages and vomiting may continue for weeks. The tongue is dry and coated, and the breath fetid. There may also be severe diarrhea with abdominal pain, the stools being very offensive. The spleen is generally enlarged.

Chills.—The most prominent and characteristic phenomena are frequently recurring and severe chills, followed, especially in the later stages, by profuse perspiration. These chills may occur every day or several times a day, and may continue as long as half an hour. It is right, however, to observe that chills may be absent till a comparatively late stage of the disease; and in a certain proportion of cases, especially in children, there may be at no stage well-defined chills. There is nearly always in these cases a feeling of chilliness and coldness of the extremities; careful inquiry should be made for these as the patient may not mention them.

The Temperature.—The behavior of the temperature is of great diagnostic importance, being subject to striking oscillations. Beginning with the chill, it may at once rise from the normal to from 102 to 105 F., falling again, it may be, in a few hours to normal or

a little above normal. These oscillations may take place more than once in twenty-four hours, and are very significant of the nature of the disease.

The pulse is rapid during the periods of high temperature, slowing down with the fall of the temperature. It becomes small and weak as the general systemic infection increases.

The respirations are rapid during the high temperature or when pulmonary symptoms develop. Pulmonary complications are very common in consequence of infarctions in the lungs giving rise to septic pneumonia and abscess formations, in some cases with gangrene. This serious complication is usually ushered in by hurried breathing, variable pain or stitch in the walls of the chest, cough and expectoration streaked with blood or having prune-juice character; moist râles are also heard on auscultation. At first auscultation may not reveal these septic infarctions if they are confined to the central parts of the lung. The expectoration may become purulent and copious and it sometimes emits a gangrenous odor. Vertigo may be complained of, although it is not usually a striking feature. Disturbance of vision is observed when the cavernous sinus is involved. In a considerable number of cases optic neuritis is found.

Paralytic phenomena, both general and ocular, are not so often observed in connection with the septic thrombosis limited to the lateral sinus as when the other venous sinuses are involved. The pressure of the thrombus on the nerve trunks passing through the jugular foramen, in company with the internal jugular vein, sometimes produces characteristic symptoms. Various observers have reported the existence of phenomena due to irritation or paralysis in the regions supplied by the vagus, glossopharyngeal, or spinal accessory nerves. When the vein which passes through the anterior condyloid foramen is thrombosed, the hypoglossal nerve may be involved. The symptoms of thrombosis in the cavernous sinus may be very numerous and varied, being produced either by stasis of its venous blood or by pressure on the nerves lying close to the sinus. Stasis of the blood explains the occasional existence, in connection with this form of thrombosis, of exophthalmos, temporary blindness from edema of the retina, and swelling of the forehead, eyelids, and nose; while pressure of the thrombus on the abducens nerve or on the oculomotor may cause, in the former case, turning in of the eyeball from paralysis of the external rectus muscle, and in the latter, the symptoms of internal and external ophthalmoplegia, namely, paralysis of accommodation, dilatation of the pupil, ptosis, and downward and outward squint.

When the thrombosis extends to the superior longitudinal sinus, serious symptoms may arise, such as epileptiform or apoplectic phenomena, probably due to effusion into the cortex of the convexity of the brain from obstruction to the flow of blood through the sinus. In children there may be bleeding from the nose, owing to the fact that in childhood part of the venous blood from the nasal passages is discharged into the superior longitudinal sinus, and the stasis of the venous circulation in the nose caused by obstruction of the sinus leads to hemorrhage. From the same cause the veins passing in childhood from the anterior fontanel to the temples and auricles may be dilated and prominent.

General convulsive attacks have been rarely observed when the thrombus had extended to the superior longitudinal sinus.

Mental Symptoms.—The intellect usually remains quite clear to the end, if the disease be uncomplicated with abscess in the brain or meningitis. In the abdominal or typhoid type there may, however, be muttering delirium.

Course.—Septic thrombosis may have a rapid course, terminating fatally in a few days by the paralyzing influence of the septicemia. The course of the disease more frequently extends to two or three weeks, and death usually takes place from metastatic abscesses, which are most frequently in the lungs, but also occur in the liver, kidneys, or in the brain itself. In the advanced stage one or more small abscesses may occur in the cerebrum or cerebellum, or purulent leptomeningitis may be set up extending to the medulla and cord. There are on the other hand cases of a comparatively mild character, where there is intermittent and not great elevation of temperature—probably cases in which the thrombus entirely plugs the sinus and stops the circulation within it. If, however, the thrombus has disintegrated and softened the infective material and it has been carried into the general circulation, it would give rise to such symptoms as rigors, great elevation of temperature, rapid and weak pulse, and pulmonary symptoms if the lungs had been involved. In such a case the internal jugular vein should be tied in order to avert such possibilities. Since infective sinus thrombosis, meningitis and brain abscess may coexist, the symptoms may not present the typical character of one or other of these conditions. The thrombosis, if present, generally gives the character to the disease; if it is absent and the other two are present, the meningeal phenomena will probably mask the symptoms of the other.

Diagnosis.—When no objective symptoms are present, the diagnosis may be somewhat difficult. For a time it may be confounded with enteric fever or pneumonia. The existence of

the purulent ear disease and the examination of the blood should help in avoiding such a mistake. From meningitis or cerebral abscess it may be distinguished by the more pronounced chills in sinus thrombosis as well as by less disturbance of consciousness and motor power. On the other hand, the symptoms of septic thrombosis may mask those of abscess or leptomeningitis. Blood counts repeated may prove an aid to diagnosis. High leukocytosis is a valuable diagnostic indication; so also a high percentage of polymorphonuclear cells would point to abscess formation. Libman has made blood cultures in twenty-six cases of sinus thrombosis and a positive result was obtained in nine cases, in all of which the streptococcus was the organism present. The following are some of his deductions:

1. A positive streptococcus blood culture nearly always points to the presence of sinus thrombosis.

2. The continued presence of streptococci in the blood after the sigmoid sinus has been explored may be regarded as an indication for tying the internal jugular vein.

3. If, after ligation of the internal jugular vein, streptococci are no longer found in the blood, the general invasion has been stopped.

4. In some doubtful cases, where there is evidence only of a past suppuration in the ears and no other focus found from which bacteria could have access to the blood, the discovery of streptococci in the blood would indicate the desirability of exploring the mastoid and sigmoid sinus.

Prognosis.—There is no doubt that a certain degree of phlebitis in connection with purulent ear disease, leading to thickening of the coats of the vessels and to thrombi, especially in the sigmoid sinus, sometimes exists without a fatal issue. This may be owing, as has been already said, to the plug in the vessel obstructing the circulation, and so preventing systemic infection. Indeed, this is probably a much more frequent complication of ear disease than is usually supposed. Timely operation affords a good chance to the patient. If symptoms exist pointing indubitably to septic sinus thrombosis, no time should be lost before freely exposing the sigmoid sinus and dealing surgically with its contents. The present trend of surgical opinion is in favor of ligating the internal jugular vein in the neck before opening the sigmoid sinus or even before performing the radical mastoid operation, if this has not already been done. The sigmoid sinus is to be exposed after the radical mastoid operation by working back from the posterior wall of the mastoid cavity, as in the search for an extradural abscess in that situation, until the anterior part of the knee

of the sinus is exposed; if a perisinus abscess exists, the pus will escape as soon as the sigmoid groove is opened. When the sinus is reached its further exposure is aided by the use of bone forceps, after the sinus wall has been separated as far as possible from the bone by the blunt spatula. The exposed sinus should now be carefully examined. It may be gray and firm and apparently occupied by a septic thrombus or dark and necrotic with pus oozing from the interior of the sinus; on the other hand it may be soft and elastic, having the dark blue normal color and appearance. Even in the latter case there may be serious disease within the sinus. In any case, in the presence of the typical symptoms of sinus thrombosis complicating a purulent ear disease, the sinus should be opened with a pointed, curved bistoury, first to the extent of 2 mm., and afterwards, if a thrombus is found, when little or no bleeding will take place, to the extent of an inch. If the current of blood still flows through the sinus, the stream of blood from the opening made by incising the wall may wash out a soft mural thrombus. To control the bleeding, the upper and lower ends of the exposed sinus are pressed on by narrow firm gauze pads; by modifying the pressure it will be seen whether the bleeding is from above or below or both. A good plan also in order to prevent bleeding when the sinus is opened is to insert a thin piece of gauze between the bone and the sinus at either end of the part to be excised; the prevention of bleeding greatly facilitates the examination of the interior of the sinus. If no thrombus is found, the lips of the cut sinus are pressed down with the gauze on the inner wall of the sinus, so as to obliterate the blood channel; in such a case the thrombus is probably in the jugular bulb. No doubt the infection may sometimes be due to the septic thrombosis of the smaller veins, tributaries of the lateral sinus or internal jugular vein. In ligating the internal jugular vein, an incision is made along the anterior border of the sternocleidomastoid muscle, beginning just about the angle of the jaw and extending downward about two inches or more, depending on the extent of the thrombosis. After separating the skin, superficial fascia and platysma with the knife, the balance of the section is continued with the blunt dissector until the sheath containing the vein, artery and nerve are reached. The sternocleidomastoid is grasped deeply with a retractor and retracted strongly outwardly, when the vein is usually seen lying external to the carotid artery, the nerve being posterior. The vein should now be carefully elevated, care being taken not to include the nerve, and ligated in two places about an inch apart and then severed between the ligatures. This is usually done

below the level of the fascial vein and, if necessary, this is ligated also. Surgeons differ now as to the disposition of the vein; some prefer to leave it after tying it off; others prefer to ligate as high up as possible near the jugular bulb and dissect out the vein completely. In view of the fact that the majority of thrombi contains septic material it would appear that the complete removal of the vein is the cleaner surgical procedure. Alexander has recommended suturing the vein into the wound and utilizing it subsequently as a drainage tube. After ligating the jugular, the surgeon proceeds to remove the clot from the sigmoid sinus. The vein being carefully slit, the inferior end is first carefully and gently curetted. If there is free bleeding we may be assured that the inferior petrosal sinus is not involved in the thrombosis. If on the other hand there is no free bleeding after removing the clot from this region, the opposite condition prevails, and if the patient's condition justifies it a further removal of bone toward this sinus should be done. The posterior end of the sinus is next dealt with and the bone removed over the sinus as far back as the trochlear if necessary.

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DISCUSSION

DR. L. K. GUGGENHEIM: There are still men who claim that the ligation of the internal jugular should not be done unless there is some absolute indication. I have come to the conclusion that in every case where a sinus thrombosis has been diagnosed the internal jugular should be ligated before the sinus is touched, preferably before very much manipulation has taken place. If we wait too long, these cases are so weakened and their resistance so lowered by the absorption that results are not good. In one case, the last case that I ever tried not ligating the internal jugular, I had to ligate later; since then I have made up my mind never again to neglect that part of the operation. This case had a sinus thrombosis develop after a radical mastoid. Rutin has reported several such cases and has come to the conclusion that although there is apparently no injury to the dura, when the dura has to be exposed in the radical mastoid operation, as is necessary in many cases, the thrombosis which follows is due to some slight injury of the sinus wall. This is a warning to us to be extremely careful in such cases because of the danger of the slightest sort of an abrasion of the dura leading to thrombosis.

In my case there must have been some injury, although none was apparent at the time. I performed the sinus operation but did not ligate. I thought I would try once more without ligation. The temperature did not go down, the patient continued in the same condition, and finally I was compelled to ligate. A few hours after ligation the case began to clear up and made a perfect recovery.

I think a great deal depends on a free flow of blood after the thrombus has been completely removed. We should not be satisfied with exposing the thrombus and removing it and perhaps a portion of the wall of the sinus, nor fear going too far posteriorly.

REPORT OF CASES OF CEREBROSPINAL
SYPHILIS TREATED WITH SALVAR-
SANIZED SERUM *

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"To determine the actuality of the nervous disease in what may be called its latent phase, and to make it disappear as rapidly as possible . . . constitutes the true prophylaxis of syphilitic nervous affection." These are the words of Dr. Ravaut and sum up the endeavors of every physician.

The early forms of syphilis of the nervous system have been as successfully treated as syphilis in other parts of the body, the later forms, as tabes and general paresis have been utterly intractable to antisyphilitic treatment. In early tabes we have seen an arrest of the progress of the disease, but in paresis it is generally admitted the prognosis is hopeless. A method for successfully treating these forms of syphilis would be an achievement of the first rank in therapy.

The discovery of salvarsan raised the hopes that it would be effective in the late stages of cerebrospinal syphilis. Its failure to produce results in this condition comparable to those produced in other forms of syphilis contributed support to the belief that these disorders were not syphilitic, but parasymphilitic, a belief already held by many clinicians, and the outlook seemed as hopeless as before. With the demonstration of the *Spirochaeta pallida* within the substance of the central nervous system in tabes and paresis, the belief that these are not actual syphilitic processes becomes untenable, and the question again arose why these conditions were so resistant to the usual antisyphilitic treatment. An explanation in supposition not unsupported by experimental evidence is that the tissues and fluids of the cerebrospinal organs absorb very little, if any, of certain substances introduced into the circulating blood. For example, meningitis is not perceptibly benefited by intravenous or subcutaneous injections of antimeningococcus serum, while intraspinal injections of the same serum gives definitely beneficial results. The reason for this was not clear until delicate tests showed that antibodies introduced into the circulatory system do not appear in the cerebrospinal fluid, even though present in abundance in the circulating blood.

That antisyphilitic substances may in a similar way fail to reach the tissues of the brain and cord when introduced in the ordinary manner is not improbable.

The injection of salvarsan and neosalvarsan directly into the spinal canal produced directly

harmful results. Corbus reports four rather sad results from injecting neosalvarsan directly into the spinal canal in cases of tabes according to the method of Ravaut. Brief accounts of his cases are as follows:

1. Paralysis of the bladder still persisting six weeks after the injection.
2. More incoordination and numbness. Anesthesia greatly increased.
3. Unable to walk at all. Numbness and anesthesia markedly increased.
4. Unable to walk. Both numbness and anesthesia decidedly increased.

The physiology of the subarachnoid space and the spinal fluid will aid further in clearing up the situation. The glandular ependymal cells covering the choroid plexus secrete the spinal fluid. These cells further form a sort of gateway allowing certain substances of the blood stream to enter the spinal fluid. (Experimentally, Amos and Flexner have shown virus to have passed freely into the spinal fluid after ninety-six hours). To other substances such as mercury, potassium iodide and salvarsan they at times remain more or less impervious, allowing them to filter through in minute quantities and rather slowly. According to this it would require huge doses of these drugs to reach the *Spirochaeta pallidae* which are buried behind the pericellular and perivascular lymph spaces.

The supporters of salvarsan have long endeavored to find a spirillicidal substance which would filter through the choroid plexus easily, rapidly and in sufficient amounts. A good substitute for this seemed to have been discovered in the subarachnoid injection of salvarsanized serum after the method of Swift and Ellis. These investigators found that when a quantity of blood was withdrawn from the vein after intravenous injection of salvarsan, the serum separated and inactivated by heating to 56 C. for thirty minutes and injected into the spinal canal in gradually increasing doses, no ill effects followed and the patients so treated were decidedly improved. Further reports of a most striking nature are found by Hough, McCaskey, Fordyce and Cotton.

However, too much must not be expected of the salvarsanized serum treatment and a perusal of the pathology of tabes dorsalis will bring this to mind. It is generally accepted that there are three distinct ways in which syphilis may produce tabes: first, by necrotic degeneration of the posterior columns, caused by the defective nutrition produced by endarteritis, which gradually occludes the vessel; second, by the infiltration of syphilitic material of a gummatous nature into the posterior columns, causing degeneration; third, by the abnormal development of connective tissue, which compresses and destroys the nerve fiber itself.

* Read before the St. Louis Medical Society, November 28, 1914.

Certainly we are unable to regenerate nerve tissue which has been destroyed and replaced by overgrowths of connective tissue, by the use of salvarsanized serum or by other means. What we can do in some cases is to check the disease where it is, improve the general condition, relieve suffering and in some get a serobiologic reduction.

I do not want to give the impression that we are curing tabes, but offer reports of five cases who have had from four to twelve intraspinal injections of salvarsanized serum. None of these had a severe reaction and none were made worse. Two were decidedly improved. If we can improve some few of the many cases of tabes, I will feel that it is a step in advance of previous methods.

CASE 1.—Man, aged 46; very thin and emaciated; railroad conductor; has had gonorrhea, but the closest questioning failed to elicit a luetic history; has not been able to work for over a year; two years ago first noticed difficulty in walking and urinating; has considerable hesitancy of speech, which he formerly did not have. Genito-urinary tract shows the following: both urines cloudy, due to pus and bacteria; a rather tight stricture at the vesical neck; 23 ounces residual urine; after dilating the stricture, the residual urine was reduced but after this though the caliber of the urethra seemed free from obstruction and the prostate was of normal size, there still remained at times as much as 6 ounces residual urine; neurologic examination shows the pupils about equal but the contour somewhat irregular; both react to accommodation, but not to light; station is fair, but says he stumbles often while walking at night; knee jerks are absent; sexual ability and desires have been absent for two years; complains of lancinating pains in both thighs, being worse at night; blood and spinal fluid both give a strongly positive Wassermann reaction. It was decided to give him intraspinal injections of salvarsanized serum; after the first injection he seemed very much improved, pain had entirely disappeared and he felt stronger in every way; after six days sexual desire returned; he was given six injections in all and continued to improve; was able to return to his work as conductor, gained 20 pounds in weight, but his reflexes did not change and the blood and spinal fluid both gave a strongly positive Wassermann reaction; has not returned for further treatment and says he is still working regularly and feeling well.

CASE 2.—Man, aged 36; general condition fair; had syphilis seven years ago and various interrupted treatments for five years; lately has had tingling sensations down both thighs and legs and says he tires very easily; pain on the left side of the head, much worse at night; nothing abnormal can be felt over this pain area; is very nervous and unable to sleep more than two or three hours each night; has been examined by his family physician, who told him his pupils were absolutely rigid but on examination we find them to react slightly to light; station fair but his gait a trifle unsteady; knee jerks exaggerated; no bladder disturbance; blood and spinal fluid both strongly positive by the Wassermann test; was given twelve intraspinal injections of salvarsanized serum; his progress was slow but continuous; pain in left side of the head disappeared after the third injection; slept well and felt very much stronger; the numbness and tingling in the legs became much less, but did not disappear entirely; pupils now react quite lively; this is the only patient in whom a reflex improved; blood and spinal

fluid both still show a positive Wassermann, although not as strong as formerly.

CASE 3.—Man, aged 19 years; no history of gonorrhea or lues; always rather delicate; was well up to four years ago when suddenly noticed pains in bladder associated with much difficulty in urinating; has been examined, treated and operated on several times; was treated for inflammation of the bladder, prostatic trouble, general debility and nervousness; was operated on once for stricture of the urethra, again for prostatic trouble and later had suprapubic cystostomy for inspection of the bladder; troubles have been worse since operations; general health now bad; appears rather listless and dull; odor of decomposed urine rather pronounced; passes urine with difficulty, the stream having no force and has to be forced out in small amounts by straining; there still remain 5 ounces of residual urine; examination reveals no stricture or trouble in prostate or seminal vesicles; cystoscopy shows a rather severe cystitis with a remaining granulating area on the anterior surface of bladder surrounding the postoperative suprapubic fistula; neurologic examination—pupils widely dilated, the left slightly larger than the right, both of irregular contour and react very feebly to light; station fairly good, right knee jerk present, left absent; complains of numbness in both legs. Wassermann reaction strongly positive in both blood and spinal fluid. This case gave no history of lues on close questioning, so not having found the source of trouble in him, his father was asked to appear and have a blood test made. This he did and on questioning him we found he had sore on penis forty years ago, followed by eruption and sore throat. Wassermann reaction of his blood was strongly positive. He appeared in good health and was working every day, although 63 years of age. The son was at once given intraspinal injections of salvarsanized serum at intervals of ten days to two weeks and although he said he felt much stronger after the first injection, after receiving six, was no better. Blood and spinal fluid still gave a strongly positive Wassermann reaction and reflexes were the same.

CASE 4.—Small, thin, very delicate looking man, aged 62; occupation, civil engineer; in 1884 one sore appeared on penis, two weeks after intercourse; was treated by doctor for chancroid; no other manifestations of syphilis noted at that time; in 1896 had some trouble with eyes and at this time oculist noticed right pupil larger than left and said it did not react as it should; seven years ago noticed frequency and difficulty in urinating; consulted a doctor who examined the urine and said it was normal and after much trouble and traumatism to the urethra succeeded in passing a stiff catheter and drawing off $1\frac{1}{2}$ pints of urine; patient bled profusely and developed a suppurative cystitis, being in bed two weeks; after further examination, the doctor decided a prostatectomy was necessary and the patient was referred to Dr. Lewis for this purpose; examination as follows: urine passed with difficulty and was very cloudy; soft rubber catheter inserted with ease and 14 ounces residual urine found; the urine contained an abundance of pus and bacteria, but no casts; palpation of the prostate shows no enlargement; cystoscopy shows a marked cystitis with considerable trabeculation and a deep pocket in the floor of the prostatic urethra; no intravesical hypertrophy of the prostate was found; pupils unequal, right larger than left and do not react to light; cremasteric and abdominal reflexes absent; knee jerks absent; station fair but gait rather unsteady; Wassermann reaction of the blood negative, of the spinal fluid feebly positive. This case was given eight intraspinal injections of salvarsanized serum, after which patient said he felt much stronger, but neurologic findings remained unchanged and the blad-

der disturbance was not improved. Up to date I would not say that this was an improved case.

CASE 5.—Man, aged 66, in fair general condition; had syphilis in 1880; has had difficulty in walking and urinating for ten years; during this time has had severe cramps in the legs which were always worse at night; in 1906 had a left hemiplegia, being laid up for three months before being able to walk about with the aid of a cane; very ataxic gait, but station fairly good; marked tremor of hands and their use is very clumsy; pupils do not react to light, but are equal; knee jerks are exaggerated, the right more so than the left; sensation to pain markedly diminished up to the waist line; has 12 ounces of residual urine which is very cloudy, due to bacteria and pus; Wassermann of the blood is negative; of the spinal fluid very feebly positive; has had four intraspinal injections of salvarsanized serum and is not improved in any way. He, however, is very optimistic and thinks beyond a doubt he is improved, which merely goes to show the psychologic effect of a new treatment on these patients. Examination of prostate shows no enlargement.

In comparing the results obtained by the intraspinal injections of salvarsanized serum one must not forget the influence of the psychologic effect of a new treatment. In many cases of tabes and paresis there are periods of remissions covering months or years. These observations were made before the advent of salvarsan and before the later and more precise methods of diagnosis.

However, the reports of the use of salvarsanized serum by many conscientious men are very favorable but as I repeat the attempt at regeneration of nerve tissue is absolute folly. Once the syphilitic process has progressed to destruction of nerve tissue there is nothing to be done. What we must do is to get our cases early before there has been too extensive degeneration and in most cases improvement will follow energetic treatment properly carried out.

CONCLUSIONS

1. The early diagnosis and energetic treatment of syphilis properly controlled by serum reaction would do much to prevent the subsequent development of nerve syphilis.

2. We must always remember to be thorough in treating syphilis to eliminate the possibility of a residual focus which very often will involve the central nervous system.

3. If the cerebrospinal fluid acts the part of lymph to the central nervous system and carries nutrition it should also be able to carry medicinal substances to the cells of the brain and cord. This then would agree with the view of Swift and Ellis on the direct continuity of the subarachnoid space with the lymph channels and lymph spaces.

4. Diseases of the central nervous system due to syphilitic tumor growths and tabes in its incipency are as a rule benefited by treatment but in advanced tabes where the degenera-

tive processes have taken place, the very best to be expected is a retardation of the disease.

5. The intraspinal use of salvarsanized serum is an advance in the therapy of syphilis of the central nervous system, as it furnishes the one avenue of approach for spirillicidal drugs to the heretofore inaccessible spirochetes.

6. The intraspinal injection of salvarsanized serum is a safe operation in the hands of properly trained and equipped men.

550 Century Building.

PEPTIC ULCER*

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In presenting this paper upon the peptic ulcer, gastric and duodenal, there will be no attempt to present anything new, which might have been gained from a personal knowledge of the cases presented, but rather, it shall be confined to a simple analysis of forty-six cases that have been diagnosed gastric or duodenal ulcer in the hospital during the past eighteen months. It has been the attempt to choose those symptoms, signs, etc., which are most commonly found in gastric ulcer and see how well these forty-six histories, as recorded, bear them out or diverge from them.

It did not add any to our assurance when the preparation of this paper was begun to read an article in the *Journal A. M. A.*, Nov. 21, 1914, by Dr. Elliott P. Joslin of the Massachusetts General Hospital, reporting the "end-results" in 234 cases of gastric and duodenal ulcer, in 91 per cent., or 213 cases of which the exact condition was known after ten years.

The headings into which the subdivisions of this paper will be divided are etiology, diagnosis, treatment, and end-results. As in any disease of so serious a nature as gastric ulcer, the etiology is of prime importance, so it will be first considered.

As regards age, the oldest case reported occurred in a man 66 years old and the second case in point of age was 59 years old. The latter came to operation and a chronic duodenal ulcer was found, in which microscopical sections failed to reveal any signs of malignancy. Dr. Joslin reports one case who was successfully operated upon at the age of 86 years. The histories of such cases are interesting as they will encourage the surgeons to operate more cases in the aged who do not have outspoken signs of malignancy. The youngest case reported was 17 years old and the average age 35¼ years. The average age among females was 32 years (Dr. Joslin's series 36 years and

* Read before the St. Louis Medical Society, Feb. 6, 1915.

Osler's series 15 to 25 years); sex, males, 36 cases (78 per cent.), females, 10 cases (22 per cent.), (Dr. Joslin's series, males, 61 per cent., females 39 per cent.); race, white, 35 cases (76 per cent.), colored, 11 cases (24 per cent.); habits, 26 cases gave a definite history of the use of alcohol, 24 cases of the use of tobacco; occupation, laborers, 23 cases (50 per cent.). The fallacy of the statistics in this respect is easily seen when it is known that the City Hospital draws its patrons from the working classes. Housework, 8 cases; if we add to this number cooks and restaurant workers, we have 14 cases (30 per cent.) who are engaged in preparing foods for the table. It would seem that tasting of foods, especially spiced and highly seasoned articles, may play a rôle in producing gastric ulcer through, no doubt, increasing the gastric acidity and its effects upon small areas which might have for any reason become denuded of their surface epithelium.

Among associated disease the following were noted: cardiac, 4 cases (mitral regurgitation); delirium tremens, 2 cases; hepatic cirrhosis, 1 case; malaria, 1 case; nephritis, 1 case; lues, 1 case; lead poisoning, 1 case; pneumonia, 1 case; epilepsy, 1 case; tonsillitis, 1 case; and post-operative adhesions, 1 case. While it is possible for gastric ulcer to be present with any of the above conditions it is obvious that in those diseases, as cardiac and hepatic, in which there might well be chronic passive congestion of the abdominal viscera, many of the symptoms of gastric ulcer might be, and are, produced by them, and special care would have to be exercised to rule out this source of error. This precaution was not always shown on the history. One of the most flagrant examples of "snap diagnosis" seemed to be that of history No. 419, a negro woman thirty years of age who had the clinical findings of pulmonary tuberculosis. The only symptom noted in the history referable to her stomach was dyspepsia. There was no vomiting, no pain, and no tenderness noted. The patient did "spit up" a little blood, but she had the clinical signs of pulmonary tuberculosis, and the case was diagnosed gastric ulcer. If the historian had good reasons for his diagnosis, he did not record them. In regard to the case with lues, it is well to remember that luetic ulceration of the stomach does occur.

In regard to diagnosis we note that the final diagnosis shows 37 cases (80 per cent.) of gastric ulcer and 9 cases (20 per cent.) of duodenal ulcer. Recent surgical statistics indicate that duodenal ulcers occur much more frequently than the above series would indicate.

Those symptoms and signs which were considered a reasonable reason for diagnosis included the whole, or a not too disjointed part of the following: Clinical symptoms of pain with its relation to food taking; tenderness;

dyspepsia; nausea; vomiting, and the vomiting of blood; recurring attacks with perhaps intervals of well-being in which weight was regained; and the following laboratory aids: gastric analysis, free and combined acidity after an Ewald test meal; appearance of microscopic or occult blood; sarcinal yeast cells, etc., denoting retention; stool analysis showing tarry stools (melena) or occult blood after a sufficient length of time since the ingestion of meats, etc. In the histories, the clinical symptom of pain was noted in 37 cases (80 per cent.); tenderness, 31 cases (67 per cent.); dyspepsia, 36 cases (78 per cent.); nausea, 38 cases (83 per cent.); vomiting, 37 cases (80 per cent.); hematemeses, 21 cases (46 per cent.).

There was a record of 24 cases in which laboratory aids of some kind were employed; 15 cases had gastric analysis of one kind or another. In 12 cases the acidity was determined, hyperacidity occurring in 8 cases (66 $\frac{2}{3}$ per cent.). Occult blood was examined for in twelve cases and found in 3 cases (25 per cent.). Sarcinae were reported in 1 case and Oppler-Boas bacilli were never reported. Of the stools 20 cases were examined. In 14 cases melena was observed and in six cases occult blood was found, being examined for in 9 cases. With the above statistics it is needless for me to say that in the series of cases reported, the diagnosis has frequently been upon insufficient data.

Under treatment we note that the greatest number of days any patient remained in the hospital was 46. The least was 1 day, with an average of 16 days. Of medically treated cases the average was 15 days, and of surgically treated cases 31 days. If, as is claimed, all cases of peptic ulcer should be under treatment for at least 1 year, it is readily seen that few conclusions can be drawn from the evidence at hand in these cases, as there is no record of the cases after leaving the hospital.

Medically treated cases were 38 in number or 83 per cent. Eight cases (17 per cent.) came, either at once or after medical treatment did not relieve, to the surgeon. As most agree upon the medical treatment, it need not be considered. The type of operation employed was the suture of the ulcer in 4 cases (Lambert sutures and usually covering the site of the ulcer by stitching a piece of omentum over it); gastroenterostomy alone in 3 cases; and suture of the ulcer combined with gastroenterostomy in one case. Of the two surgical cases which died, gastroenterostomy had been performed in one case and suture of the ulcer in one case.

The findings on operation were chronic duodenal ulcer in 3 cases, perforating duodenal ulcer in one case, perforating gastric ulcer in 3 cases, and perforating "pyloric ulcer" in 1 case, so that the percentage is 50-50. One case

of perforating duodenal ulcer was diagnosed acute appendicitis and one case of chronic duodenal ulcer as gastric carcinoma.

As regards end-results, except in those cases which died, nothing is known. Thirty-four cases (74 per cent.) were discharged improved, 3 cases (6.5 per cent.) with no improvement. Nine cases (19.5 per cent.) died. Seven cases or 20.6 per cent. of cases treated medically died; and two cases, or 25 per cent. of surgically treated cases died. As to the cause of death, perforation alone in 4 cases; perforation plus hemorrhage in one case; hemorrhage alone in one case; pneumonia in one case; post-operative, 2 cases. Of the latter, chronic duodenal ulcer was found in one case upon operation and perforated gastric ulcer in one case. If we may accept the surgical statistics of so small a number of cases, the percentage of cured and relieved (which was 75 per cent.) is greater than those reported by Dr. Joslin, which was 56 per cent. (40 per cent. cured and 16 per cent. relieved at the end of observation) while those medically improved were 74 per cent., as compared with 81 per cent. in Dr. Joslin's series (42 per cent. relieved and 39 per cent. well). Unfortunately, we do not know how many of the cases of this series had a return of symptoms. A good point made by Dr. Joslin is that most surgical cases are medical failures.

Three cases, or 33½ per cent. of those who died, came to autopsy. Perforated gastric ulcer was found in two cases. In these cases, one showed gangrene of the lungs and the other, abscess of the liver and general peritonitis due to the extension of the infection after perforation. The other case showed a perforated duodenal ulcer and extensive hemorrhage.

In conclusion and to sum up, we note that of 46 cases of gastric and duodenal ulcer in the City Hospital, the average age in the males was 36 years; in the females, 32 years; males, 78 per cent., females 22 per cent.; whites 76 per cent., colored, 24 per cent.; alcoholic, 56.5 per cent., tobacco users, 52 per cent., laborers, 50 per cent., house-workers, etc., 30 per cent.

As regards diagnosis, 80 per cent. were gastric, and 20 per cent. duodenal ulcers; pain 80 per cent., tenderness 67 per cent., dyspeptic symptoms 78 per cent., nausea 83 per cent., actual vomiting 80 per cent., hematemesis 46 per cent. Of cases examined, hyperacidity in 66⅔ per cent., blood in gastric contents (occult) 33⅓ per cent., in stools 66⅔ per cent.

Treatment: Average number of days of medically treated cases 15; surgical 31—83 per cent. treated medically; 17 per cent. treated surgically.

End Results: 74 per cent. discharged improved, 6.5 per cent. unimproved, 19.5 per cent. died. Medical mortality 20.6 per cent., surgical mortality 25 per cent.

LABORATORY AID IN THE DIAGNOSIS OF GASTRIC ULCER*

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The diagnosis of gastric ulcer by means of laboratory tests alone is impossible but at the same time the laboratory cannot be dispensed with.

The stomach contents of gastric ulcer cases is usually large in amount and very easily obtained, as there is present a hypersecretion. In the 58¹ cases which I have had the opportunity to observe, the average amount obtained was 103 c.c., the proportion of solids to liquids is as 1 to 3 or 5. Chymification was very good in 52.9 per cent. of cases, with a tremendous amount of stomach mucus in 67.6 per cent.

Hyperacidity is a classical symptom and yet it was present in but 38.3 per cent. of cases (using 60 as the upper limit of normal), while sub-acidity was present in 20.5 per cent. of cases (using 30 as the lower limit of normal). The so-called hyperacidities are in a large majority of cases due to diseased conditions outside the stomach itself, nervous system, gall bladder, appendix and the toxins, for instance, tobacco.

The total acidity of the gastric contents is usually increased, HCl constituting a large part of the total acidity. The average total acidity in the 58 cases was found to be 71 per cent., while the average free HCl was 51, with a maximum of 117 in one instance. But the acid may be diminished because of other diseases of the mucosa, catarrh, chronic alcoholic gastritis, etc. It is very essential to distinguish the fresh from the old ulcer, for in the latter the acidity is much lower. In chronic gastric ulcer, or an ulcer complicated by a beginning carcinoma, we may find all types of variation in the acidity of the stomach contents.

The presence of free HCl does not exclude cancer, particularly in those cases where the carcinoma develops on the base of a chronic ulcer.

In 87 cases of carcinoma (confirmed by operation or autopsy) free HCl was present in eleven, varying in amount from 2 to 44; and total acidity varying from 4 to 106.

Blood was strongly positive in the stools in 9 cases, moderately positive in 1 case, and absent in another, the lone negative result occurring in a case of scirrhus carcinoma microscopically confirmed:

*Read before the St. Louis Medical Society, February 6, 1915.

1. Pyloric ulcer or duodenum, 42; curvature ulcer, 5; questionable ulcer, 11; operations, 14.

Case	Free HCl	Total Acidity	Blood in Feces
1	28	42	Strongly positive
2	44	72	Strongly positive
3	22	106	Strongly positive
4	14	28	Strongly positive
5	36	68	Strongly positive
6	3	6	Strongly positive
7	2	4	Strongly positive
8	8	60	Absent
9	9	18	Strongly positive
10	14	36	Moderately positive
11	2	32	Strongly positive

The result of these eleven cases should be sufficient to warrant a more careful examination of the patient and specimens, and not to exclude carcinoma simply by the presence of a positive Congo reaction. But on the other hand, should hydrochloric acid be absent, Oppler-Boas bacilli and lactic acid be present, the diagnosis of carcinoma is strongly indicated.

Stomach mucus is generally greatly increased in both ulcer and cancer of the stomach. The presence of microscopical food residue does not always indicate the presence of an ulcer or cancer, but is rarely found in simple atonic conditions. If stagnating food is obtained from a morning fasting stomach, providing that hydrochloric acid and sarcinae are present, it indicates a benign obstruction due to scar formation.

The examination of the feces in acute gastric ulcer is a very important adjuvant in the diagnosis, especially is this true if the patient has been on a meat free diet for 3 days, as blood is often found intimately mixed with the food, but this is not as constant an occurrence as in cases of carcinoma, for it has been repeatedly shown that a gastric ulcer will cease bleeding on a bland diet without any medication (the diet consisting, roughly, of cream of wheat, hot milk toast, oatmeal jelly, custards, gelatines, corn-starch, and hot water), while in contradistinction an almost pathognomonic sign of a carcinomatous growth will be the continuous presence of blood in the stool on a diet free from all sources of blood in the food, nose and throat, teeth and gums.

(1) The color of the stool varies with the diet, medication, or the presence of blood; (2) the quantity, of course, varies and has no diagnostic value, but the average amount was 46 grams per stool; (3) the consistency is generally soft and mushy, and was so in 78.5 per cent. of cases; (4) gas seems to be present in the feces more frequently and in greater quantity in gastric ulcer than in any other condition except simple intestinal fermentation, and was present in 39.2 per cent. cases. The gas may easily be observed if the entire specimen is brought in a tightly closed Mason fruit jar, it only signifies the fermentative changes taking place in the bowel. (5) The presence of much

connective tissue residue indicates the absence of hydrochloric acid in the stomach contents; (6) in searching for blood I always use two tests (1) Boas phenolphthalein, (2) guaiac-turpentine. The technic of the Boas phenolphthalein test is as follows:

A watery solution is made of a small portion of carefully selected fecal matter and of about 15 c.c. of this solution an acetic-ethereal extract is made by adding $\frac{1}{3}$ volume of glacial acetic acid and about from 2 to 5 c.c. of ether and agitating carefully for 2 minutes. Then in another test tube containing 2 c.c. of Boas phenolphthalein solution and 5 drops of hydrogen peroxid, 2 c.c. of the ethereal extract is added and thoroughly mixed, a red color appears immediately, the intensity of the reaction indicating the amount of blood present. I am sure the guaiac-turpentine test is familiar to all and the technic need not be mentioned.

In the 58 ulcer cases blood was found as follows:

Blood present in both tests in . . . 64.7 per cent.
Blood present in Boas test only in 34.5 per cent.
Blood absent in both tests only in 0.8 per cent.

Depending upon the quality of the food, intermittent bleeding is very characteristic of ulcer, the ulcer bleeding on a cellulose diet and stopping on a soft bland diet.

So in conclusion I will say that the test for occult blood, if carefully done, is the most valuable single test we have, and if one is watching an ulcer case and the occult bleeding does not cease on a soft bland diet, a diagnosis of beginning cancer should be made and operation advised.

Wall Building.

ROENTGEN-RAY AIDS IN DIAGNOSIS OF GASTRIC ULCER

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The Roentgen ray as an aid in diagnosis has rapidly come into its own. It is no longer restricted to the determination of fractures and other bone lesions, and the localization of foreign bodies.

It has proved an indispensable aid in the diagnosis of lesions in the thoracic cavity; pathologic heart, lung and pleural conditions. Among its latest and most brilliant achievements are the beautiful shadows cast by the esophagus, stomach, duodenum and colon, when rendered opaque by the ingestion of bismuth or barium. Thus are revealed conditions in the gastro-enteric physiology and pathology before undreamed of.

The actual size, shape, position and motility of these organs are graphically visualized and confirmed only since the advent of the opaque meal and the unstinted use of the fluoroscope and Roentgenograms.

Not only is the normal anatomy and position of these organs shown *in vivo*, but pathologic and aberrant conditions have yielded to the searching light of this marvelous ray.

If it is true that 40 per cent. of the cases of cancer of the human body involves the gastrointestinal tract, and, if 95 per cent. of these are situated in the stomach and duodenum, following, possibly, upon the site of benign ulcers, and further, if proper medical and surgical treatment is applied early, following a definite diagnosis, may we not hope in this way to reduce the mortality statistics?

The conscientious internists and surgeons are drawing more and more on the Roentgen ray as an aid in diagnosis and their measure of success in their work seems, in point of fact, to be in direct proportion to their efforts to use this, with other scientific aids, in establishing a positive diagnosis.

I have selected a few lantern slides of Roentgen rays of patients who had or were supposed to have gastric ulcer.

A number of radiographs of a given area are absolutely necessary to prove the constancy of a filling defect in the lumen.

Metropolitan Building.

THE SURGICAL TREATMENT OF GASTRIC ULCER*

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ST. LOUIS

Within the last year a number of most important contributions have been made to the surgical literature of gastric ulcer. The results of treatment of an immense number of cases have been studied and tabulated. Among the more important of the recent articles bearing directly upon the surgical treatment, are those of Mayo, Von Eiselsberg, Sherrin, Paterson, Rodman, Finney and Collinson. All are agreed that the operative treatment of chronic ulcer at the pylorus or duodenum is on the whole most gratifying. True, there has been some division of opinion as to the choice of operation, and this question is not yet definitely settled. However, it seems to me, that as the various conditions met with at operation are being better appreciated, the methods of surgical treatment are becoming more settled and definite.

It appears to be quite agreed that chronic ulcers of the pylorus and duodenum, ulcers giving rise to repeated hemorrhage, acute perforations of ulcers, and those in which there is the least reason to suspect malignancy, should be subjected to surgical treatment. The experience of most surgeons will show that the operative treatment of chronic ulcers of the pylorus and duodenum yield results most gratifying to both patient and surgeon. While all agree in the operative treatment of these ulcers, yet there is a marked disagreement as to the method of operation.

Rodman, in a recent paper, very strongly urges pylorotomy or partial gastrectomy in the majority of cases of this type. He claims that these radical procedures more certainly prevent subsequent hemorrhage, perforation, subphrenic abscess, hour-glass stomach, and malignant degeneration; whereas pyloroplasty or gastroenterostomy assuredly prevented none of them.

Finney, after a large number of pyloroplasties, is eminently satisfied with his results, and urges his method with or without excision of the ulcer.

Other surgeons of large experience favor some form of occlusion of the pylorus, with gastroenterostomy. These surgeons hold that gastroenterostomy is largely a drainage operation, and in as much as it has been demonstrated that gastroenterostomy openings sometimes close, or even though patent a part of the stomach contents still passes through the pylorus, to prevent both of which the pylorus is permanently occluded.

Sherrin and Paterson, following the study of a large number of cases, strongly favor gastroenterostomy alone. Sherrin does gastrojejunostomy in all cases excepting when some complication is encountered. Paterson analyzes a large number of cases and claims that the good results following gastrojejunostomy are entirely physiologic, and in no sense due to drainage, except in cases of stenosis. He claims that it is the neutralization of the total acids that is responsible for the cure of ulcers, and this occurs because of the presence of bile and pancreatic juice in the stomach following gastroenterostomy. He tabulates a number of cases showing that there is an average reduction of 30 per cent. in the total acidity following gastrojejunostomy. Paterson claims the same good results in the treatment of ulcers of the lesser curvature and body of the stomach, as is obtained in the treatment of ulcers near the pylorus following gastroenterostomy, and for the same reason. His results are so entirely satisfactory that he concludes gastrojejunostomy is the operation of choice in all cases of ulcer, and that pyloric exclusion, resection, excision and other operations, are entirely unnecessary.

* Read before the St. Louis Medical Society, February 6, 1915.

Judging from the recent papers of Von Eiselsberg and Mayo, they are inclined to make the choice of operation depend upon the type of ulcer and the condition found at the time of operation. It would seem to me that this is the best position to take.

Coming to those ulcers giving rise to hemorrhage, most surgeons agree that acute hemorrhage had best be treated medically. These patients are usually in no condition to stand operation and the bleeding vessels cannot always readily be found. In cases of repeated hemorrhage, however, surgery is demanded and if possible should be done in the interim or as soon after the hemorrhage as the patient's condition will permit.

All are of one accord in regard to the necessity of operation in acute perforation of a gastric or duodenal ulcer.

Collinson, of Leeds, states: "Perforation of a gastric or duodenal ulcer is, with the exception of appendicitis, the most frequent abdominal lesion. It is a condition in which the mortality is directly proportionate to the number of hours which have elapsed between the perforation and the operative relief." The statistics of Collinson, Deaver and others show that of the cases operated on within 12 hours of the time of perforation, there is a mortality of about 10 per cent. Those operated on after 24 hours following the perforation give a mortality of over 80 per cent. The mortality jumps by leaps and bounds, after the elapse of more than 12 hours following perforation.

Clearly, the lesson drawn from these statistics is obvious, and our responsibility in the treatment of perforations of gastric and duodenal ulcers is indeed great. The methods of surgical treatment differ to some extent; but the one element that is essential to the saving of life, and agreed to by all, is that the operation must be done early after perforation.

In regard to the treatment of those ulcers in which we have reason to suspect carcinoma, there can be no division of opinion as to the demand for surgical intervention. The Mayo clinic claims that 70 per cent. of carcinomas of the stomach have their origin in ulcers. A number of surgeons claim this percentage far too high. Practically all agree that carcinoma does develop upon ulcers of the stomach; however, there can be no doubt about the necessity for the removal of these suspicious ulcers.

We now come to a consideration of chronic ulcers of the lesser curvature and of the body of the stomach. There can be no question as to the uniformity of results in operation for chronic ulcers at or near the pylorus, but when one begins to study the results of nearly all surgeons for operation in cases of ulcer of the lesser curvature and body of the stomach away from the pylorus, it is at once seen that satis-

faction is far from general. Explanation for these failures is not yet at hand. These cases have been treated surgically in most part by excision alone, gastroenterostomy alone, excision plus gastroenterostomy, or partial gastrectomy. All methods have yielded a goodly number of failures. It is possible that a clearer knowledge of the etiology of gastric ulcer may lead to a solution of the problem, but until then, we must study the results following the various types of operation for ulcers of the lesser curvature and body, in a large number of cases; hoping thereby to gain information of value in the handling of this particular type of ulcer.

Metropolitan Building.

SUMMER DIARRHEAS OF CHILDREN *

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The subject assigned to me has to deal with a group of conditions rather than with a single disease entity. Diarrhea is rather a symptom of a condition than a disease in itself. It is a very common symptom among children, especially in summer, and is usually connected with a group of diseases quite closely related to each other, and having their chief seat in the alimentary canal.

Under the heading of summer diarrheas of children may be included simple diarrhea, gastro-enteritis, enterocolitis, dysentery, cholera infantum, and I think we may add gastro-enterocolitis, which involves the whole alimentary canal, although that is not a name included among the list of such diseases, as usually given, but which I think really exists sometimes. Even this list of names cannot be taken as representing that many separate diseases, distinct from each other, but merely types of different conditions more or less resembling each other, for there are all grades of conditions between those named, and a given case may present the features of two or more of them during the different stages of its course. In fact the majority of cases present more or less of a combination of two or more, rather than a clear cut illustration of any one of them, as given in the classical descriptions of the text-books.

Illustrating the connection between these diseases and the summer season, I have prepared a chart showing the number of deaths occurring in Missouri for the year 1912 from diarrhea and enteritis in children as reported to the state registrar of vital statistics, and showing the temperature of each month, as re-

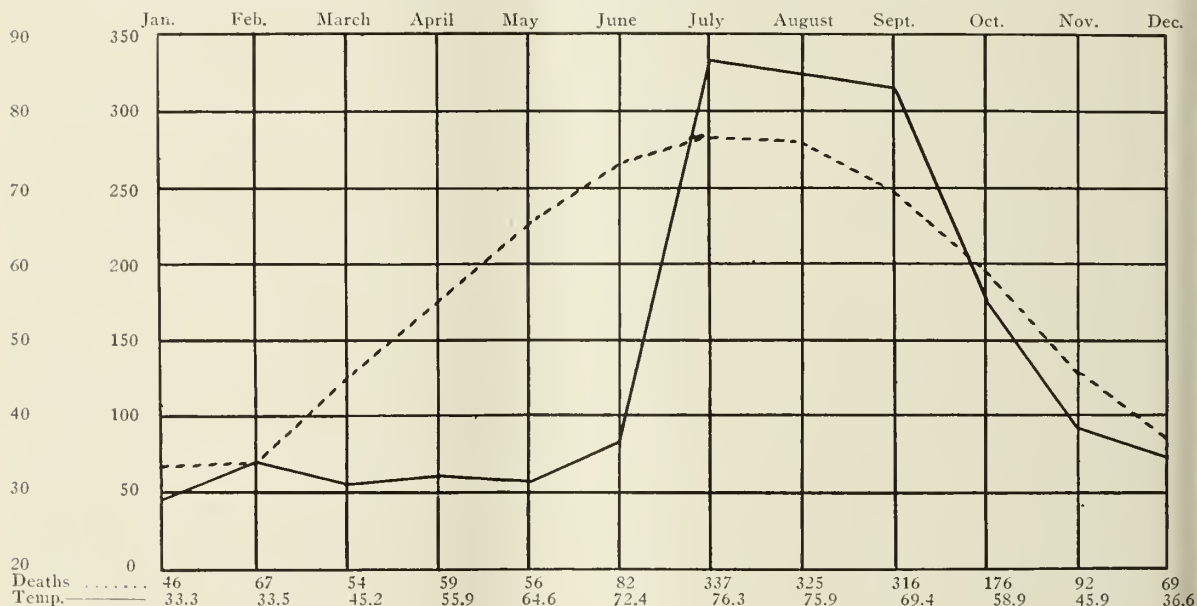
* Read before the Wright County Medical Society, Hartsville, Mo., August 13, 1914.

ported by the U. S. weather bureau at Springfield, according to the average of the years since a record has been kept. It will be seen that for the first five months of the year the number ranged from 46 to 67 per month. June began to show some increase, being 82, while the next three months suddenly sprang to over 300, ranging from 316 to 337. October, although being much cooler than June, still showed more than twice as many deaths, or 176. Even November had more than June, or 92, while December had 69, which was more than any of the first five months. From the temperature curve we see that June, July and August are the hottest months, and that April, May and June, in which occurred but 197

two months, neither do we find so many deaths from diarrheal diseases among children. Hence we see the importance of keeping flies out of the house, and especially away from the children and their food.

Another explanation of the greater number of deaths after the height of the summer heat is past is that the debilitating effects of the heat are not manifest at once, but that the child endures it for a while, only to succumb later; but if such be the case, it is hard to account for the greater number of deaths in July than in August, unless it be that many of the weaker ones succumb at once when it becomes so hot, while a less number are able to endure it for a while, only to die later.

Chart showing the average temperature at Springfield, Mo., 1888 to 1913, by months, and the number of deaths from diarrhea and enteritis under two years of age, in Missouri for 1912. Total deaths for April, May and June, 197. Total for September, October and November, months with a lower temperature, 584. Total for July, August and September, the three highest months, 978, while June, July and August are the three hottest months. Total for the whole year, 1,679.



cases, will average considerably warmer than September, October and November, in which there were 584 cases.

Now what is the explanation of these facts? I think there are several factors that may enter into the explanation. First, the greater prevalence of such diseases during hot weather is no doubt chiefly due to bacterial growth and the consequent fermentation of foods. But why is it so much worse while the heat is declining in the fall than it is while it is increasing in the spring? I attribute it to the greater number of flies at that time than earlier in the summer, and to the fact that they are one of the most prolific causes of the spread of germs of all kinds. In May and June, which are shown to be warmer than September and October, we do not find nearly so many flies as in the latter

As an evidence of the bacterial fermentation of the child's food being probably the most important cause of diarrheal diseases of children, we have but to note the fact that such diseases are many times more frequent in bottle-fed babies than those that are breast-fed; and in the latter they are much more common after weaning than before, while in bottle-fed babies the younger ones suffer more than the older ones. This shows the importance of mothers nursing their infants whenever it is at all possible, and especially during the hot months, and thus giving them sterile food instead of feeding them on artificial foods which it is practically impossible to keep from becoming more or less infected.

Another cause attributable to the heat is its generally debilitating effect, but this can be

very largely overcome by dressing the child very lightly and keeping it either out of doors or in a well ventilated room where the air does not become close and sultry. In this we do not have nearly as much to contend with as our brothers have in the cities, and our much smaller death-rate shows the result of this difference. In the matter of dress, a safe rule to go by is not to clothe a child so warm as to cause a rash to appear on the covered portions of the body or perspiration to stand on the uncovered portions. There are many days, during the hotter portions of which a baby is better off with nothing on but a diaper and a shirt, but great care is needed to see that it has more clothing on as it gets cooler in the evening, or if it suddenly becomes cooler, or a wind arises at any time, since babies are very susceptible to sudden changes of temperature, and lying a short time in a cool draft insufficiently clothed might very easily cause a diarrhea as well as disease of the respiratory organs.

What I believe to be another very prolific cause of diarrheas among children in hot weather is an insufficient supply of water. A child's body presents considerably more surface for the evaporation of perspiration, in proportion to its weight, than does that of an adult, and it must therefore be supplied with a correspondingly greater amount of fluid to replace it, or if not, the water will be taken from the contents of the alimentary canal to supply the deficiency, thus leaving the food so concentrated that it can not be digested, and thus to ferment and eventually pass on undigested to irritate the debilitated mucous membranes. This trouble is made even worse by giving the child more food instead of water, for it will eagerly take the breast or the bottle to get the fluids it craves, although its stomach and bowels are already suffering from a burden of food it can not digest. From this we see the importance of feeding a child only at regular and suitable periods, and if it seems to want anything between times, of offering it clear water, and in hot weather this should be done very often, and the child should be allowed to drink as much and as often as it wishes of water at ordinary temperatures. Water direct from the well may be pretty cold for a small baby and I would never give water any colder than that to any child, but water too warm to be palatable to an adult is no more relished by a child, though it could do it no harm.

Another prolific cause of diarrheas in children at all seasons of the year is feeding foods not adapted to their age. There are many things on the average table that no child under 2 years old ever ought to eat, and those considerably older would be better off without,

yet they are often given to babies a few months old and upwards, and bottle-fed babies are often fed on milk that is not properly modified, if indeed it is modified at all. Foods thus given that can not be digested are left to irritate the mucous membranes all the way down the alimentary canal, and when fermentation occurs it still further adds to their harmful effects.

Another cause is uncleanness of the baby itself, and of its clothing, food, and food utensils, which increases the number of pathogenic and putrefactive bacteria and thereby increases the danger of diseases of all kinds.

In the case of enterocolitis and dysentery, the bacillus dysenteriae of Shiga, one of the colon-typhoid group of bacilli, has been found, and seems to have been the cause of some cases, but whether it is or not, does not seem to have been positively determined. In the case of cholera infantum, the symptoms would seem to indicate a definite micro-organism of great toxin producing powers as the specific cause, but it has not yet been isolated.

As a general thing, most if not all of the summer diarrheas of children do not seem to be specific diseases caused by definite germs, but diseases in which many different germs act in conjunction with other causes.

Dentition has in the past been assigned an important place in the causation, but the general opinion of more recent years seems to be that it is not to be considered a cause, but merely a coincidence, and as it is a perfectly natural process in the development of the child, it does not seem reasonable that it should be a cause of disease.

It is only necessary to mention the causes, viz., hot weather with its flies and bacterial fermentation of foods, excessive perspiration and consequent thirst, and its generally debilitating effects, and the result of uncleanness and improper foods, to make the proper preventive measures apparent, and these at the same time become the most important measures of treatment. They are to keep the child as cool and comfortable as possible; keep it, and everything that comes in contact with it, as clean as possible, and especially to keep flies away from it and its food and food utensils. Give it only such food as is suitable to its age, and that at regular intervals, and then plenty of water between meals. Let it nurse the breast until a year old if possible, and especially through hot weather.

The lesions found in these conditions consist in the milder forms of those of a simple catarrhal inflammation of the mucous membranes, hyperemia, swelling, edema, and softening, with an increase of the secretions. In the severer forms there is an increase of these

conditions, with an exfoliation of the epithelium in patches, leaving an ulcerated condition. The solitary glands and Peyer's patches are swollen, softened or ulcerated and the mesenteric glands become involved in severe cases. In some cases, and especially in dysentery, there is a rupture of the capillaries with consequent small hemorrhages. In cholera infantum, which is the most rapidly fatal of this group of diseases, there is usually nothing found to indicate the severity of the disease, more than a mild degree of catarrhal inflammation, except in those cases which are more than usually prolonged, when they take on more of the character of enterocolitis.

The symptoms of the diseases under consideration are varying degrees of restlessness, thirst, loss of appetite, nausea, vomiting, diarrhea, fever and rapid pulse, abdominal pain and tenderness, emaciation, diminished secretion of urine and, in severe cases, coma and convulsions. The restlessness and fretfulness gradually quiet down to a greater or less degree of coma as the case grows worse. The loss of appetite is often overlooked, as the child's thirst causes it to take food to satisfy its craving for fluids when it would not do so if supplied with plenty of clear water.

The nausea and vomiting are more severe in those cases where the stomach is more involved, but they occur more or less in all cases, and are especially severe in cholera infantum, when not only everything in the way of food and drink are immediately rejected, but large quantities of bile and mucous secretions from the stomach and duodenum also.

The diarrhea varies greatly in the different conditions, but is present in all of them to a greater or less extent. In simple diarrhea there may not be more than three or four passages a day, and their character may be but little changed from the natural, more than to be more fluid from increased intestinal secretions. In these cases the child presents very little evidence of illness, otherwise than the diarrhea, but if not checked, it is very liable to soon develop a more serious condition. When the stomach and duodenum are involved, there is more or less undigested food present, either curds of milk, or food from the table in older children. When the small intestine is involved, the discharges become more fluid, and in cholera infantum excessively so, in fact after the first few passages which are very offensive, they become almost clear water and quite devoid of smell, constituting the so-called "rice water" discharges. In enterocolitis they are more green and semi-fluid, mixed with curds, mucus, and some fecal matter, and present what is described as a "chopped spinach" appearance. In dysentery they show more

jelly-like mucus, blood, pus, and fecal matter. In most conditions there is more or less of a mixture, as the different parts of the alimentary canal are more or less involved. The number of passages will vary from four or five, to twenty or more, in twenty-four hours, and the quantity of fluids thus withdrawn causes the urine to be more or less diminished, and this gives rise to symptoms of uremia in some cases. It also causes great emaciation, causing a fat plump baby to soon present the opposite appearance, with depressed fontanelle and wrinkled skin and flabby muscles. This emaciation, that is first caused by loss of fluids, soon becomes worse from starvation, if the case continues, for the child is able to digest and retain very little food of any kind, except in the milder cases.

The fever is generally in proportion to the other symptoms, being from normal in cases of simple diarrhea, up to 102 to 104 F. in severe cases of enterocolitis, and a degree or two higher still in cholera infantum, with pulse ranging from 120 to 160 F., and in the worst cases so weak as to be almost uncountable.

There is more or less abdominal pain and tenderness, with tympanitis, in most cases, which causes the child much suffering when it is handled. This emphasizes the need of handling such babies more gently than is sometimes done, and shows the torture that is so often thoughtlessly inflicted on them by rough handling, to say nothing of the way such handling aggravates the disease. In many cases the discharges from the bowels are so irritating that they cause excoriation of the anus and surrounding parts, which adds greatly to the child's suffering.

The duration of simple diarrhea may be only a day or two, or a week or two, but if it continues long it is likely to develop into one of the graver conditions. Cholera infantum generally lasts only a few days, and often ends in death in from eight to twenty-four hours, while if it lasts over three or four days, it either recovers or runs into enterocolitis, which may prove fatal later on, and in case of recovery the convalescence is likely to be slow. Enterocolitis may develop quite suddenly, but usually comes on more slowly, after a simple diarrhea, and it may progress steadily to a fatal ending in a few days, or continue several weeks ultimately to end in death or recovery.

The prognosis of enterocolitis and cholera infantum is always grave, but more so in younger and weaker children and in those deprived of the breast, and in those that have been more or less debilitated by simple diarrhea previous to the onset of the graver disease. Strong vigorous children with proper treatment and hygienic surroundings stand a very good

chance for recovery. It is very important that proper treatment be instituted at once, even in the very mildest form of diarrhea in children, when they scarcely appear to be ill at all, lest the disease take a more serious form later and a fatal termination ensue.

In the milder cases of simple diarrhea, all that is required is to attend to the preventive measures already mentioned, and in all cases this is the most important part of the treatment and should be attended to first and rigidly enforced throughout the management of the case.

As the proper feeding of the child is the most important point in the prevention and treatment of such cases, it may not be out of place to consider the subject, first as to healthy children, and then such modifications as become necessary as a result of the diseases under consideration.

It is an undisputed fact that no food can by any means be prepared that is more than a near approach to nature's food, breast milk, and that even with the best of substitutes, the child stands in much greater danger to its health than when it is nursed at the breast; therefore the circumstances must be grave when one is justified in denying a child that privilege. When the mother cannot furnish sufficient milk for it, she should let it have what there is and only supply the deficiency by artificial feeding. As a rule I think a child should be nursed until it is a year old, and enough more to take it through the hot weather to September or October if the year ends later in the summer than April or May, although some authorities sanction weaning a few months earlier than this.

Of all artificial foods, none have ever been prepared that have proved better than properly modified cow's milk, and in order to prepare that properly it is necessary to consider briefly the difference between cow's milk and woman's milk. By taking the average of many analyses, we find that cow's milk contains approximately 4 per cent. each of fat, sugar and proteids, while woman's milk contains 4 per cent. of fat, 7 of sugar and 2 of proteids. In modifying the cow's milk we must then add sugar, which should be sugar of milk and not cane sugar, and we must reduce the proteids. In fact the excess of proteids in the form of casein is where the chief difficulty lies.

I have prepared a table showing the composition of woman's milk, of cow's milk, and of three formulae of modified milk which will meet the requirements of most cases, also of the top nine ounces of a quart bottle after standing a few hours in a cool place, and of the top sixteen ounces of a quart bottle. I have also given directions for preparing the three formulae of modified milk.

	Fat Per Cent.	Sugar Per Cent.	Proteids Per Cent.
Woman's milk	4	7	2
Cow's milk	4	4	4
Formula No. 1	2	6	1
Formula No. 2.....	3	6	1
Formula No. 3.....	4	7	2
Top nine ounces of quart.....	12	4	4
Top sixteen ounces of quart.....	8	4	4

	Ounces
Formula No. 1, Take of top sixteen ounces of quart.....	5
Sugar of milk.....	1
Water	20
Formula No. 2, Take of top nine ounces of quart.....	5
Sugar of milk.....	1
Water	20
Formula No. 3, Take of top sixteen ounces of quart.....	10
Sugar of milk.....	1
Water	20

To any of these formulae, one ounce of lime water should be added during hot weather, and one ounce less of water used, and for children over 4 months old, oatmeal or barley water may be used in place of clear water. The first two formulae will meet the requirements of the younger and weaker children, except in some few cases that require a greater reduction, while the third formula will be suitable for older and stronger ones. Children over a year old can usually digest the unmodified cow's milk, but even then it is well to add lime water during hot weather. Children over 6 months old may be given a cracker or a piece of stale bread to eat dry or crumbed in the milk sometimes when well, but as a rule they should not be fed much except milk until a year old, and for the next two years milk should be the main part of their living. They can have crackers, stale bread, oatmeal, rice, corn flakes, milk gravy, mashed baked potatoes, soft-boiled eggs, etc., but they should not have fried potatoes, beans, green corn, cabbage, hot biscuits, meat, and especially fat pork, pies, rich cakes, much sugar, or many of the foods found on the average table, and it would be well to follow this plan to some extent for several years longer, if indeed we would not all be better off to confine ourselves to plainer and more easily digestible foods even in later years.

Whether a child is bottle-fed or nursed at the breast, it should be fed regularly and not oftener than every two hours for the first month, two and a half hours for the next two months, three hours from then on, and get down to four hours apart by the end of a year. By the end of two years a child should get along on three meals a day. In all cases they should have plenty of water between meals, even from the first, and in hot weather and when feverish, it should be offered them every hour or oftener.

If the child is given proper food and water as above directed and kept cool, not handled more than necessary nor taken out in the hot sun, kept clean, and all its food and food utensils kept clean and sweet, there will be little

need of medicine. If, however, a child with such care should have a diarrhea, its food should be cut down somewhat for a day or two, and in severe cases, if bottle-fed, milk should be withheld entirely and barley water, or white of egg in water, given instead, and usually a dose of castor-oil should be given to clear out the bowels, unless they appear to be well cleaned out already. This should be followed by camphorated tincture of opium, bismuth, and chalk mixture. If the diarrhea continues, tincture of kino or other astringent may be added, or what is probably better, one of the newer preparations of tannic acid, such as tannalbin, tannigen, or tanniform. If there is much vomiting, minute doses of calomel or carbolic acid may be used in a mixture of bismuth and mucilage of acacia. If the fever is high, bathe several times a day in water ranging from blood heat down to 80 F., or even a little lower. If there is undigested food, curds, etc., in the stools after correcting the diet as well as possible and after cleaning out with castor-oil, pepsin or pancreatin or both should be added to the treatment. If the discharges indicate that the lower bowel is involved, enemas of normal saline solution should be given two or three times a day and cool enough to help reduce the fever. If there is much pain or tenesmus, tincture of opium in boiled starch should be thrown into the rectum several times a day. Some astringent may also be added to it, as tannic acid or sugar of lead. There is quite a list of so-called intestinal antiseptics, as salol, the sulphocarbolates, etc., that are recommended, but it seems hardly conceivable that anything of that kind can be used strong enough to destroy the bacteria without injuring the patient. It seems more reasonable to depend on cleaning out the alimentary canal, rather than on destroying the bacteria in it. Neither opium nor astringents should be used so early or so strong as to lock up the offending matter in the bowels.

In dysentery caused by the bacillus of Shiga a serum has been used to a good effect, prepared by immunizing horses to the bacillus, and it would no doubt be of equal value in enterocolitis where the same bacillus is a causative factor. Whenever the micro-organism causing cholera infantum is isolated, no doubt a bacterin or serum will be prepared that will prove useful in those cases, but there will probably be little done with this line of treatment in the majority of cases of summer diarrhea, because there is so great a variety of bacteria acting as causes that it will be almost impossible to do anything with stock bacterins, and many of the cases would die or recover before autogenous bacterins could be prepared, even if the physician in charge was prepared to produce them himself.

There is, however, a line of bacterial treatment that seems to offer some hope of success and to be worthy of trial, and that is by the use of the bacillus bulgaricus, which is said to be perfectly harmless to the patient and to have the power of destroying most other bacteria in the alimentary canal by the amount of lactic acid it produces in large quantities. It is prepared in tablet or liquid form by several of the manufacturing pharmacists and may be taken in that form after each feeding of milk, or it may be put in the milk and the resulting sour milk used as food, but it seems to me that the former method would be best, and I mean to give it a trial.

There is much more that might be said about treatment, and many cases that will require additions to or modifications of the treatment here given, but this will serve as an outline and is as much as time will permit at this time.

THE OPERATIVE TREATMENT OF CHRONIC DACRYOCYSTITIS

PRESENTATION OF PATIENT AND SPECIMEN *

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Chronic dacryocystitis, with its attendant dangers of abscess and fistula developments and with its continuous menace to corneal integrity, has been the subject of much discussion during many years. The textbooks of the last twenty years are rather uniformly of the opinion that the condition is difficult to remedy. The tedious, painful dilatations extending over many months are not productive of good results in a large proportion of cases. Fuchs, in 1906, states, "recurrences (after many weeks of probing) may set in owing to the contraction of cicatricial tissue and, in fact, this occurs so often that permanent cures form the exception."

De Schweinitz, in 1896, stated, "the well-known fact that under the most skilful treatment affections of the tear passages often resist healing, renders a guarded prognosis necessary."

As for radical methods, not much encouragement is offered by the older writers. Nettle-ship, in 1890, very briefly advises obliteration of the sac as a last resort. Swanzy, in 1894, speaks of obliteration by cautery, and dissection of the sac, as of doubtful efficacy. Noyes, in 1894, describes the closing of the wound by granulation tissue in two or three weeks after incision and cautery, stating that such treatment does not give uniformly good results. Fick, in 1894, mentions that obliteration of the sac by

*Read before the Ophthalmic Section, St. Louis Medical Society, December, 1914.

various means is a classical method and remarks that Arlt had abandoned the method of extirpation after several attempts. On the other hand, he is not optimistic in his description of treatment by periodic dilatation.

Ophthalmic literature of the last five years is replete with reports and investigations concerning the pathology and treatment of dacryocystitis. The opinion seems to be prevalent at present that radical measures are usually necessary.

Bradburne¹ believes that "these instruments (probes) except under special circumstances should never be employed—probing can scarcely fail to cause serious damage, and reparative fibrous tissue sooner or later organizes."

He quotes Hirschberg to a similar effect. Such an opinion is probably as much too radical as earlier methods of treatment were too conservative. Many methods of treatment have been advocated. Wessely² speaks favorably of the treatment of chronic dacryocystitis with iodine, a method used by C. M. Cobb³ in a case reported by him.

F. Cohn⁴ recommends the use of fibrolysin in tear sac disease. A more radical procedure is that advocated by Peterson⁵ who reports good results in a series of cases in which the tear passage was opened by a special stricture knife.

The Toti operation of establishing a permanent wide communication between the sac and the nose by cutting a large opening in the wall between the tear sac and the nose has many advocates. D. L. Davies⁶ considers it the best method of treating chronic dacryocystitis and believes that the radical extirpation of the sac is suitable in a limited number of cases only. It is rather difficult, however, to understand the advantage of leaving a nonfunctioning, diseased mucous membrane in the canal with the continued probability of further trouble, when we are almost certain of eliminating the disease by more radical measures.

T. H. Butler⁷ declares that the Toti operation is very difficult and that the results are not better than those following extirpation. Standish,⁸ while believing that many cases can be cured by persistently treating the sac with antiseptics over a period of many months, states that the trend of opinion today is in favor of extirpation. The experiments of Lancaster demonstrated that extirpation of the tear sac in guinea-pigs considerably reduced lachrymation of that eye.

Elliot⁷ reports a series of 900 cases of extirpation, and remarks that the operation was practically invariably followed by diminution of the lachrymal secretion. The subject of dis-

eases of the tear passages was discussed at the meeting of the British Medical Association in 1913, and many reports of successes in operative treatment recorded. In the 900 cases reported by Elliot and his assistants, 78 per cent. of the sacs were removed entire. He is in favor of searing the passage after extirpation with a red hot cautery.

Butler, in discussing the papers presented there, is strongly of the opinion that styles are nonsurgical and that perhaps only 5 per cent. of the cases are cured by probes.

It would be unprofitable to multiply references as to the value of operative measures in this disease. The following case is reported rather to elicit discussion of the subject, than for any other purpose. It possesses no unusual features, but illustrates what can be accomplished in such a distressing class of cases. It is seldom that our patients can be persuaded to give up their working time and undergo the repeated painful treatment required by the more conservative methods.

Of course, the treatment of such cases in children differs considerably from that described above. Frequently, one thorough dilatation under ether anesthetic will effect a cure, unless the condition is tuberculous.

CASE 1.—Mrs. B., aged 30 years, consulted me Oct. 31, 1914. For seven years her right eye had given her great annoyance. Tears "run over" her face from that eye and at frequent intervals the eye has "mattered" and her face has become swollen and painful on the right side. She has frequently had severe headaches and pain across her forehead. The glasses which she has been wearing for several years correct her ametropia. Her general health has been fair, although her resistance is below the average.

An examination demonstrated considerable tenderness over the tear sac of the right eye and a chronic conjunctivitis.

The puncta of the right eye were incised and several attempts made to dilate the tear duct. Purulent accumulations could be washed from the tear sac through the puncta, but the lower end of the sac seemed either very stenotic or occluded. Fluid could not be forced through the duct into the nose, nor could a probe be passed through the duct at several trials.

She gave her consent to radical measures, and on November 6 I removed the tear sac under ether anesthesia, after the method described by Meller. Primary union of the wound was effected on the fourth day. There have been no complications. At the present time, the scar is quite apparent, but after several months it should not be of much consequence. Her eye is occasionally filled with tears, but there has been no epiphora. Her pain and headaches have disappeared. It would, perhaps, be the part of wisdom to wait several months before declaring the condition remedied and the eye normal, but from every indication at present obtainable, her chronic purulent dacryocystitis has been cured.

As for the operative difficulties one encounters, it is well to state that a general anesthetic is almost a necessity to one of limited experience in extirpating tear sacs. Despite the excellent diagrams and lucid explanations of the

1. Ophthalmology, ix, No. 3.

2. Thirty-Ninth Ophthal. Congress, Heidelberg.

3. Boston Med. and Surg. Jour., 171, No. 6.

4. Wehnschr. f. Therap. u. Hyg. d. Auges, xv.

5. Ophthalmology, vii, No. 4.

6. London Lancet, Jan. 3, 1914.

7. Brit. Med. Jour., Nov. 1, 1913.

8. Surg., Gynec. and Obst., xvi.

topography of the operation, the bleeding may be annoying and the dissection tedious, making work under cocain adrenalin anesthesia extremely difficult. The entire sac must be removed, preferably intact, otherwise the operation is of no value at all. The accompanying specimen from this patient illustrates the appearance of a sac completely closed at its lower extremity, presenting at the upper end the openings of the canaliculi.

It seems to me that the radical operation for the cure of chronic dacryocystitis is logical and practical. It promises definite and permanent results if skilfully performed, and is preferable to painful, tedious treatments lasting many months.

ADDENDA

An examination made April 20, 1915, almost six months after the operation, shows the eye to be practically normal. There is a slight increase of lachrimation when the eye is exposed to wind, but no epiphora and no symptoms of any inflammatory trouble.

Carleton Building.

A MISSOURI STATE HOSPITAL

RICHARD HENRY JESSE
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Would it not be an admirable thing if in every state as large as Missouri there were at least one excellent hospital, open to the sick from all the territory? And if this is true, should not the institution be supported chiefly by the state? And if this, too, be granted, where in Missouri could this hospital be so well located as at the university in Columbia, whither well-trained students by thousands are ever thronging to get light and to spread it? The reader's answers to these questions I would like amazingly to hear. Mine would be about as follows:

A state hospital I undoubtedly would found in the great university at Columbia; but in some respects it should be different from most other hospitals as known to me. For instance, one department should have as its chief function to scour Missouri in quest of the ailing. Testimony from them, penetrating to every cranny of the land, would soon bring all our people to feel that for sick folk, at least, it is expedient to visit the state university.

Many of us have marveled that hospitals did not sometimes do more for their patients. If we examine into the matter with a bit of care, it will soon appear that one thing of prime importance, but not always present, is a wholesome situation for the sanitarium. It means much to have everything about it in a quiet

place, where little dust or smoke obtrudes, but where all outdoors abounds in clean air, sunshine, and green things. On the wide-spreading lands of the university it were easy to secure ideal grounds for such purposes. Where else, indeed, in all Missouri could you find so much to commend any single spot? About the university are grouped many things apt to attract the notice of sick folk and to beguile their sorrows, such as the campus itself, many grounds for gardening of various sorts, the cadets at afternoon drill, athletic contests, a marvelous library, model dairies, the Y. M. C. A. building, Reed Hall (dormitory for women), far-spreading fields, registered cattle, Clydesdale, Percheron, and other fine horses, high-bred fowls, waving crops and orchards; to say nothing of concerts, lectures, sermons, and other forms of worship. Where else in all Missouri can so many blessings, material and spiritual, be had within the space of a few acres?

The general manager of such a hospital must have good knowledge of medicine, of course; but important, likewise, would it be for him to have administrative ability of good quality. His business it would be, through assistants, to direct this hunt for the sick, to assign them proper lodgings when they came, to send away the convalescent. For ward-cots large fees should not be charged. No treatment ought to raise the question of money alone. The charges great or small, should include attendance of all kinds on the patient.

No patient should be suffered to bring his own doctor, except by consent of the hospital staff; but by vote of that staff, duly qualified physicians, surgeons, and even nurses might attend clinics, or offer suggestions, or might serve in consultations. For a state hospital to shut out forbiddingly any that through regular methods had been fully recognized of its state would look inconsistent; while if every patient might bring along his own doctor, things would be kept in a woeful tangle. Nor ought our hospital sages to engage at all in practice outside its walls. Their work would consist, in part, of administrative measures, and, in part, of teaching or of research or of helping back to health duly admitted patients.

Another function of this hospital would be to illustrate diseases and various ways of treating them, all these illustrations being shown, you remember, on a campus thronged with multitudes of students. Sick people, of course, should never be used for any illustrations, except by their own consent: they should be received for treatment; and, if possible, for curing, which last is the main business of a modern hospital. And these limitations we are imposing, you observe, in a paragraph describing how a hospital of our dreams is to set forth demonstrations. But to suppose now that

we are mainly dependent for demonstrations on the sick themselves is to proclaim one's self as of olden times in medicine. Did not Dr. Carrel win the Nobel Prize lately, signifying that in the judgment of learned judges his had been, for that year, for all the world, the most valuable discoveries in medicine? And Dr. Carrel's experiments, while made, no doubt, mainly on living forms, were none of them made, perhaps, on living people. But the reader knows full well, without assurances from me, that many of the diseases hitherto discovered are common to beasts and to human-kind, so that illustrations of highest quality are obtainable from animals ranging in size from rabbits to horses. On animals, likewise, are to be tried experiments with electricity oftentimes and with other things that ought not to be applied recklessly to living creatures and still less to human beings.

Nor are we dependent on living animals altogether for our substitutes, seeing that illustrations of excellent quality may be got from photographs, from Roentgen-ray prints, lantern slides, plaster molds, and so on. By such aids, we can show plants, beasts, or people in various stages of growth, decay, or recovery; in health, or in disease; can display interiors of other hospitals or laboratories; and can show to perfection myriads of other helpful things, if only there be equipment enough and skill enough in the demonstrator. For in all these displays, valuable as they are, only two things are indispensable—an able exhibitor and sufficient equipment. But no outfit will ever be truly efficient that is not costly (under present prices) and carefully selected. Is there in Missouri to-day a college or a hospital that can boast such an outfit for medicine? Illustrations like those we have been considering are sometimes derided, but less and less as years go by, and only by those who neither have the equipment nor know how to use it. And the use of plants and beasts for demonstrations is mocked at only by men that do not quite understand how to choose the forms, or how to treat them, or how to interpret their results. A paragraph might reasonably be added, if there were but space, showing that only by liberal use of equipments like those we have suggested can there be secured in any hospital stability in its teaching, or its research, or, indeed, in anything else that might be followed to ends worthy of any truly great institution of healing, of learning, and of teaching.

Another function of this hospital would be to pass judgment on methods, maladies, and remedies that might be referred to it by the state. American people often go wild concerning nostrums—cancer stays, cholera cures, consumption shields, and the like. A testing-ground, where such things might be examined

and the results published abroad by methods at once legal and scientific would seem highly appropriate for so great a state as Missouri has now become.

Another function of our hospital would be to maintain in high efficiency laboratories for research into the great unknown, which oftentimes contains near at hand what is of highest importance to us mortals. The objector may urge that these things go inevitably with hospitals. It ought to be so, unquestionably; but the fact is frequently otherwise. For example, a department the chief aim of which should be to make researches into the best ways of using mind in the prevention and cure of diseases would be not only valuable, but in Missouri, at least, it would also be quite new. How mental diseases may measurably be calmed has, no doubt, provoked some inquiry already—but slight thus far has been the inquiry into most of these questions, beckoning us on towards the unknown. Has Missouri done much hitherto toward determining how far healthy conditions of mind can be used measurably in modifying bodily defects and deformities? Or has the state, in any way commensurate with its power, told us how feeding the mind and cheering the soul and diverting them both to some new interests may be employed quite as effectually as pills can be in the prevention and cure of ordinary maladies, like jaundice, grip, typhoid fever, pneumonia, dysentery, malnutrition, and so on; and that, too, in spite of the fact that in our struggle against almost all these complaints conditions can be produced in mind and soul that often act like charms?

As we turn from this field of inquiry, tempting but well-nigh untrodden, another looms up large, namely, how far in curing bodily infirmities sensible use may be made of changes in bodily positions; of skin treatments of artificial functionings, scientific massage, prepared airs, and so on. In all these directions, likewise, some investigations may have been made already; but they seem to have come mostly from people, intelligent, it may be, but badly trained in sciences fundamental to medicine, whose results, accordingly, have seemed lacking in reliability. Our hospital should have it high among its aims to afford patients whatever of comfort might safely come from reasonable use of artificial functionings of any kind—from careful rubbings, intelligent shiftings of positions, thoughtful kneading of muscles and nerves—all with the best of apparatus and by methods unquestionably safe and scientific. The light gained from such treatments could ever be turned on the hitherto unknown, while final results, carefully formulated, could be published afar. Who doubts that much good would surely ensue?

To exhibit and to teach what is known about methods of preventing diseases and to increase the reliability of this knowledge ought to be another fixed aim of the hospital, which should ever stand for the doctrines that it is the normal condition of human-kind to be healthy; that when, in spite of efforts to prevent, infirmities do creep among the people, marvels can be accomplished by intelligent uses of fresh air, sunshine, prepared airs, sleep, diversion, wholesome mental conditions, new exercises for nerves and spirits as well as for muscles, skin treatments, artificial functionings, sensible massage, seasons of rest, and so on.

It is a serious matter to be a sovereign state. The words, we feel, ought not to be mere sounds, but they ought to mean a great deal, especially when once the state has become so great as Missouri. Does it not seem to be alike a privilege and a bounden duty to maintain at its university, in perfect condition, a school of preventive medicine, which, now working alone, now as interlocked with other divisions of learning, now in this array of laboratories, now with that stretch of experiment rooms, shall always be showing how best to forestall diseases altogether; how, when, past all defenses, some of them shall have crept among us—so great is their multitude—we may most effectually eradicate them; how meanwhile we may, as skilfully as possible, nurse the ailing to convalescence; how, as we go on, to contribute our uttermost toward digging from the masses of the unknown as much as possible of precious truth; and how, finally, to teach these things thoroughly to our children. Surely Missouri, vast and incredibly rich, might well establish forthwith one such hospital as we have tried to picture. And where could it be put better for public good than at the state university? The multitude of the students, now almost 3,900, not patients, but eager graduates of good high schools and junior colleges, would make it easy to furnish, besides the regular teachers, many famous lecturers, coming in annually to give short terms. There is hardly a medical man in the state that would not crave to visit the university for a week or two at any season to hear such a man as John G. Wyeth or William Osler or many another like them. Farmers, engineers, teachers and journalists all do likewise every year for their respective callings. In every reputable craft, indeed, it will come to pass before long that the decent craftsman will spend annually one short term, at least, learning more about the art and keeping abreast of it; and the other terms in applying what has already been learned.

But some of our maladies, due, no doubt, to accidents, or coming with sudden seizures, are quite beyond the reach of a single institution. Therefore, I would receive readily as gifts to

the university, or by legislative acts would recognize some hospitals, like that described above, but situated elsewhere in Missouri, which would be branches of the state university medical college, like junior colleges of arts; but as long as they were kept alive in spirit, methods, and aims, many such institutions would work harmoniously together. So long, then, as they came, offering reasonable conditions of acquisition, and giving ample assurances as to purity of purposes and reasonableness of methods, I would stretch with fair facility the wing of the state over all such sanitariums. They might come on—Missouri is a large area and it is populous. Moreover, the health of so many people must bring serious concern always. But, meantime, one crowning hospital, fairly central and a pattern for all, I would found and admirably maintain in the university at Columbia just as soon as the bill could be drawn founding it and calling for gifts unto it.

EASY MONEY

The following is a part of letter received by the Secretary from a physician in a town not far from Kansas City. In addition to the paragraph printed below, this physician states that it is common knowledge throughout the country adjacent to Kansas City that no one need pay for surgical attention here, etc. Comment on this state of affairs is unnecessary. The charge is true. The abuse of medical and surgical charity is shameful. But after all what can we expect. These cases present themselves and without any investigation they are placed in a free ward and the surgical and hospital service rendered without question. The medical fraternity gets just what it demands and nothing more.

—R. E. C.

Dr. R. E. Castelow,
Kansas City, Mo.

Dear Doctor:—

"A coal miner, age 37, consulted me about February 1, on account of a recently acquired hernia and enquired about the cost of an operation for its cure. He objected mildly to the fee of \$100.00 and said he would go to Kansas City, where the operation would not cost him anything. He was operated on at a hospital by Dr. ———, so he told me on his return, after a stay of three weeks in the hospital. This patient carried an accident and sick benefit policy that allowed \$100.00 for an operation for the cure of hernia, besides he draws weekly benefits from two other lodges. He owns his own home and makes from \$80 to \$90 per month when working. He has not only received his operation but has actually made money by it. He was smooth enough to get a certificate from me and another doctor, before going to Kansas City, stating that an operation was advisable, and also a certificate from the house physician at the hospital stating the length of time he was there. These certificates he used to collect his \$100.00 from the accident company. I asked why he did not get a certificate from the surgeon who operated on him. He said the doctor might want to charge him for the operation if he knew he was allowed \$100 by the fraternity."

Such a premeditated abuse of charity should be an offense punishable by law.

Yours fraternally, Dr. ———.
(From *Bull. Jackson Co. Med. Soc.*)

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3525 Pine Street, St. Louis, Mo.

JUNE, 1915

EDITORIALS

THE FIFTY-EIGHTH ANNUAL MEETING

With the close of the St. Joseph meeting on May 12 probably the most successful annual gathering of the organization passed into history.

The scientific program received much praise from the members and the spirited discussions proved the practical value of the papers. Although somewhat crowded the program was completed without annoying interruptions. There were thirty-seven papers on the program exclusive of the president's address. Seven essayists failed to respond when their names were called, leaving twenty-nine papers that were read; of these all except three were discussed quite thoroughly. The sessions lasted until six o'clock on Tuesday and Wednesday, but the absence of night sessions left the members free to enjoy the evenings according to their own inclinations.

The House of Delegates transacted the business of the Association in an orderly and expeditious manner. The proposed amendment to the constitution giving the Association authority to aid in the investigation of the eligibility of applicants for membership was adopted without dissent. A start was made toward accumulating funds for extraordinary purposes when the House appropriated \$1,000 for a reserve fund.

In electing the president only one candidate was nominated, Dr. C. R. Woodson, of St. Joseph, and he was elected by acclamation. Subsequently some members discovered that Dr. Woodson carried an advertisement in the St. Joseph newspapers and at the General Meeting on Wednesday, May 12, Dr. Woodson made a statement concerning this advertisement. This statement was on motion referred to the Judicial Council. On Wednesday, May 19, the Judicial Council met in special session and after a hearing declared the office of president vacant and elected Dr. C. B. Clapp, of Moberly, one of the vice-presidents, to act as president, in accordance with the constitution and by-laws. The other officers and committees elected are:

vice-presidents, Guy B. Mitchell, Branson; C. B. Clapp, Moberly; A. E. Monroe, Sedalia; B. B. Potter, Lancaster; R. E. Castelow, Kansas City; secretary, E. J. Goodwin, St. Louis; treasurer, J. Franklin Welch, Salisbury; delegates to the A. M. A., R. M. Funkhouser and E. J. Goodwin, St. Louis; defense committee, R. E. Schlueter, W. B. Dorsett and R. E. Kane, St. Louis, re-elected; Committee on Cancer, Frank J. Hall, Kansas City and Rudolph Buhman, St. Louis; Council on Health and Public Instruction, R. M. Funkhouser, St. Louis; Council on Medical Education, A. W. McAlester, Columbia; Committee on Vaccination, Joseph Grindon, St. Louis; Councilors, 2d District, O. C. Gebhardt, St. Joseph; 3rd District, G. W. Whiteley, Albany; 4th District, J. B. Wright, Trenton; 5th District, J. R. Bridges, Kahoka; 6th District, A. C. Crank, Canton; 7th District, J. D. Smith, Shelbina; 11th District, G. W. Hawkins, Salisbury; 12th District, Spence Redman, Platte City; 17th District, W. J. Ferguson, Sedalia; 23rd District, J. H. Timberman, Mars-ton.

Excelsior Springs was selected as the place for the next meeting.

THE COUNTY SOCIETY SECRETARIES

The secretaries held their annual meeting at 1:30 p. m. on Monday, May 10, at which Dr. O. B. Hall, of Warrensburg, read a paper on "The Medical Organization as a Social Factor;" Dr. H. S. Crawford, of Harrisonville, read a paper on "The Real Purpose of County Society Meetings," and Dr. J. A. McComb, of Lebanon, one entitled, "Peace-Makers." The topic for general discussion was "How Can the Attendance at County Medical Societies Be Maintained." At this meeting Dr. A. R. Craig, secretary of the American Medical Association, addressed the members.

The annual banquet to the county society secretaries was an unqualified success. The only feature that marred the unalloyed enjoyment of the occasion was the absence of some of the secretaries, which is, however, a defect that we can hardly expect to entirely avoid. Covers were laid for 50 secretaries and councilors and all except five seats were occupied. The president, Dr. J. H. Timberman, was in a happy vein and contributed to the enjoyment of the occasion by his humorous reference to the speakers upon whom he called for remarks.

Dr. J. Q. Cope read a splendid paper on the political influence of the county medical society, and showed us why it was practically nil. His paper will be published in the JOURNAL. This was the only formal paper read at the banquet. The retiring president of the State Association,

Dr. H. C. Shuttee, made some encouraging remarks; Dr. A. W. McAlester, of Columbia, reminded us of the importance of the State University and the pioneer work that had been done by some of its students; Dr. A. R. Craig, of Chicago, secretary of the American Medical Association, laid stress upon the large responsibility of the county secretaries in keeping the societies alive and the importance of regular and frequent meetings. He also complimented the county secretaries upon the thoroughness of the state organization in Missouri. Dr. R. Emmet Kane, president of the St. Louis Medical Society, in his maiden speech at the annual banquet of the secretaries, related his experiences with quacks and charlatans when the advertising doctors were driven out of St. Louis; told of the other work undertaken by the St. Louis Medical Society and very emphatically drew attention to the fact that the physician must be a man of highest moral character in order to discharge his duty to the profession and to the people in adequate measure. Dr. Robert E. Schlueter, chairman of the Defense Committee, roused the enthusiasm of all present in his description of the remarkable success of the Association in defending its members against malpractice suits. Other speakers were Drs. J. Franklin Welch, treasurer, R. E. Castelow, secretary of Jackson County Medical Society, W. F. Goetze, secretary Buchanan County Medical Society, and E. J. Goodwin, secretary of the Association.

A MONUMENT TO MEDICAL SCIENCE

The mere mention of the dedication of the Washington University Medical School buildings and the Barnes Hospital at St. Louis does not suffice for so significant an event, when one considers what the advent of such an institution means to the progress of medicine in the Middle West, but the finite mind can do no more. History alone can reveal what tremendous influences for good will germinate in this new monument to science.

The stimulating effect of this institution must be felt by every physician in the immediate and the surrounding communities. Its construction bespeaks the last work in modern architecture. Its purpose is the advancement of the science of medicine. The complete equipment and the perfect correlation of hospital, laboratory and dispensary, make it perhaps second to none for the teaching of medicine and for the promotion of scientific research.

Washington University now offers better education for the student, more abundant opportunity for activity and scientific investiga-

tion for the physician, and stands as the realization of a dream to those older men whose hair has whitened and whose eyes have dimmed in the long and incessant struggle for progress and advancement in the practice and the teaching of medicine. The event is of importance not only to St. Louis and to the Middle West, but to the entire medical world, whose admiring eyes and expectant hopes are centered upon this institution as a most significant step in the progress of medical education.

THE BAKING-POWDER PROBLEM

For a number of years there has been much discussion with regard to the effects of baking powders on the health. While minor objections have been urged against all baking powders, the principal charge of unwholesomeness has been made against baking powders containing alum. This objection is based primarily on the injurious effects of large quantities of aluminum salts. To this objection the answer has been made that the process of decomposition which liberates the leavening gas when alum baking powder is used, produces an oxid of aluminum which is insoluble, and hence not injurious. For the facts in this matter to be fully understood, it must be remembered that the so-called alum now used in baking powder is not the alum used in medicine, being a sodium alum (sodium aluminum sulphate) instead of the official potassium salt. This point is held by some to be important in view of the effects of potassium salts on the system. Cream of tartar is a potassium salt, being potassium acid tartrate.

In the discussion of the baking-powder question, it must be remembered that the practical application of the facts concerns only small amounts of these salts and contemplates an occasional and not a constant use. Few people habitually consume breads made from baking powder, hence the amount of potassium introduced into the system by baking powder is unlikely to be of serious moment as regards health. Potassium salts are frequently taken as constituents of vegetable food, and yet there is no evidence that they disturb metabolism in any way. The question whether alum used in this way is injurious has been settled by the investigations of the Referee Board of Scientific Experts appointed by President Roosevelt, and its decision may be considered as coming from the court of highest authority. The investigation of this board covered a period of several years and was the most extensive single investi-

gation ever conducted as to the healthfulness of alum baking powders. The distinguished character and personnel of the board itself lends additional weight to its findings. The board consisted of the following men:

Dr. Ira Remsen, president of Johns Hopkins University.

Dr. Russell H. Chittenden, professor of physiological chemistry, Yale University, and director of the Sheffield Scientific School.

Dr. John H. Long, professor of chemistry in the Northwestern University Medical School.

Dr. Alonzo E. Taylor, professor of physiological chemistry, University of Pennsylvania.

Dr. Theobald Smith, professor of comparative pathology, Harvard University.

The board made the following findings:

"Aluminum compounds when used in the form of baking powders in foods have not been found to affect injuriously the nutritive value of such foods.

"Aluminum compounds when added to foods in the form of baking powders, in small quantities, have not been found to contribute any poisonous or other deleterious effect which may render the said food injurious to health. The same holds true for the amount of aluminum which may be included in the ordinary consumption of aluminum baking powders furnishing up to 150 mg. (2.31 grains) of aluminum daily.

"Aluminum compounds when added to foods in the form of baking powders, in large quantities up to 200 mg. (3.09 grains) or more per day, may provoke mild catharsis.

"Very large quantities of aluminum taken with foods in the form of baking powders usually provoke catharsis. This action of aluminum baking powders is due to the sodium sulphate which results from the reaction.

"The aluminum itself has not been found to exert any deleterious action injurious to health, beyond the production of occasional colic when very large amounts have been ingested.

"When aluminum compounds are mixed or packed with a food the quality or strength of said food has not been found to be thereby reduced, lowered or injuriously affected."

In short, the board concludes that alum baking powders are no more harmful than any other baking powders, but that it is wise to be moderate in the use of foods that are leavened with baking powder.

In Dr. Taylor's conclusions, a different aspect of the baking-powder question is brought out. It is shown that the product of all forms of

baking powders is laxative, and the suggestion is made that the laxative effects of the continuous use of breads made with baking powder may be injurious. The objection applies to the cream of tartar baking powder which leaves a residue of Rochelle salts, to the phosphate baking powders which leave the phosphate of sodium and to the alum baking powders which also leave the sodium sulphate. Dr. Taylor says: "Apparently, therefore, at present at least, the use of baking powder is associated with the introduction into the alimentary tract of a certain amount of saline cathartic, the salt differing with the use of a particular type of baking powder." In connection with this objection, the amount of soluble residue left by the decomposition of the baking powder becomes of importance.

Here, again, the pertinence of the objection depends on the quantity likely to be eaten. In no case is it likely that a person would consume bread or biscuits enough to get an appreciable effect on the bowels from the laxative produced.

The criticisms with reference to the action of baking powders indicate a tendency to magnify quite incidental matters whenever they seem to favor the interest of one or other manufacturer. Thus the tartrate was at one time highly regarded because it was a product which was destroyed in the system, leaving a natural constituent of the body, that is, potassium carbonate. More recently it has been discovered that the tartrates are only partially metabolized in the system, removing the supposed advantage of the tartrate powders. On the other hand, there is a disposition to emphasize experiments tending to show the power of tartrates to affect the kidneys injuriously, although there is no evidence that such an injurious action can occur from the small quantity present in baking powders. While the objections to alum are unjustified, the physician will do well to inquire carefully into the probability of any alleged injury occurring from other forms of baking powder. —*Journal of Indiana State Medical Association.*

HEALTH SUNDAY AT ST. JOSEPH

The health lectures in the churches at St. Joseph on Sunday, May 9, caused much favorable comment in every quarter. The ministers and congregations were gratified with the instructive character of the addresses and the physicians were pleased with the reception accorded them. Two churches were added to the list at

the last moment and speakers were hurriedly called to respond to the appeal of the pastors for addresses. We believe the movement is in the right direction and it will probably become a permanent part of our annual proceedings. The Committee on Health and Public Instruction expresses its thanks to the physicians who gave their time and substance in making this undertaking possible, as the Association did not pay their expenses, and to the ministers of the churches who opened their pulpits for the occasion. We will endeavor to make Health Sunday at Excelsior Springs next year as successful as was the one at St. Joseph. A complete list of the speakers and the churches will be published in the next issue of the JOURNAL in connection with the full report of the meeting.

PAPERS READ AT THE ANNUAL MEETING ARE THE PROPERTY OF THE STATE MEDICAL ASSOCIATION

The papers read at the St. Joseph session will be published in the JOURNAL as rapidly as possible. We anticipate disposing of all these papers during the current year. Members are reminded that the papers are the property of the Association and cannot be published in other medical journals without the consent of the Publication Committee. We mention this fact because information has reached us that efforts are being made by other medical journals to induce members to send their papers or an abstract of them to those journals. Essayists should not forget that the members of our Association are entitled to the first reading of their papers, hence the JOURNAL should not be made second choice in this matter.

REREGISTER BEFORE JULY 1 UNDER HARRISON LAW

Physicians should not forget that the Harrison Law requires them to reregister with the United States Internal Revenue Collector before July 1 in order to avoid penalties after that date. A recent issue of the *Journal of the American Medical Association* quotes a new ruling by the Commissioner of Internal Revenue and comments editorially thereon. We reproduce the entire article from *The Journal of the A. M. A.*:

"Since the Harrison law went into force, frequent inquiries have been made as to the quantity of drugs which a physician was justified in prescribing or dispensing. Obviously, the quantity necessary in chronic cases or in the treat-

ment of drug habitués differs materially from the quantity permissible in an ordinary case. The law makes no provision on this point, except to provide in general terms that, whether prescribing or dispensing, all acts coming under the scope of the law must be in good faith and not to evade the purposes of the act. It has been evident that some supplementary ruling on this point would be necessary. The Commissioner of Internal Revenue has just issued a ruling, dated May 11, which provides that

'where a physician, dentist, or veterinarian prescribes any of the aforesaid drugs (those included in the provisions of the Harrison law) in a quantity more than is apparently necessary to meet the immediate needs of a patient in the ordinary case, or where it is for the treatment of an addict or habitué to effect a cure, or for a patient suffering from an incurable or chronic disease, such physician, dentist, or veterinary surgeon should indicate on the prescription the purpose for which the unusual quantity of the drug so prescribed is to be used. In cases of treatment of addicts, these prescriptions should show the good faith of the physician in the legitimate practice of his profession by a decreasing dosage or reduction of the quantity prescribed from time to time, while on the other hand in cases of chronic or incurable diseases, such prescriptions might show an ascending dosage or increased quantity. Registered dealers filling such prescriptions should assure themselves that the drugs are prescribed in good faith for the purpose indicated thereon, and if there is reason to suspect that the prescriptions are written for the purpose of evading the intentions of the law, such dealers should refuse to fill same.'

Under this ruling, physicians must place on their prescriptions, whenever, for any reason, an unusual quantity of opium or cocain is prescribed, a statement of the reasons for such an order. If the physician and patient are acting in good faith, it is difficult to see any objection to such a provision. There will, of course, be some sensitiveness on the part of secret drug addicts to having their weaknesses made a matter of record, but this can hardly be avoided in any plan which will separate the genuine from the spurious demand for these drugs. The ruling of the Commissioner will clear up a point on which there has been much discussion. As *The Journal* has constantly stated, the object of the Harrison law is to secure publicity in the use of habit forming drugs and to effect the prosecution and punishment of all persons using them for illegitimate purposes. Compliance with this ruling will relieve physicians of responsibility and will make the prescribing or dispensing of unusual amounts of these drugs a matter of record."

TUBERCULOSIS STUDIES BY THE U. S. PUBLIC HEALTH SERVICE IN JASPER COUNTY, MO.

On request of the Antituberculosis Society of Jasper County, Mo., and with the cooperation of the U. S. Bureau of Mines, it was decided by the U. S. Public Health Service to conduct a sanitary survey of Jasper County, with special relation to the conditions prevailing in the mining industry. A preliminary report of the work already accomplished by Passed Assistant Surgeon A. J. Lanza, U. S. Public Health Service, and Mr. E. Higgins of the Bureau of Mines, has been prepared and is about to be published by the latter bureau.

After considering this preliminary report, it appeared to the Public Health Service that the district mentioned presented a good field for making, in connection with other investigations of industrial sanitation, a thorough epidemiologic study of tuberculosis in relation to the metalmining industries. This study is now in progress, offices having been established for this purpose at Webb City, Mo., by Dr. Lanza.

The plans for the work contemplate epidemiological and clinical studies of a sufficiently large series of tuberculosis cases and observations of healthy persons, so as to determine predisposing causes and prevalence of the disease among the miners, and the measures that should be taken for its control.

Dr. Lanza is having in his work the cordial cooperation of the Antituberculosis Society, the mining authorities, the miners, and the mine owners, and the assistance of the local physicians in furthering his investigations is greatly appreciated.

OBITUARY

W. L. LAMASTER, M.D.

Dr. W. L. Lamaster of Ashland died at this home March 23, 1915, aged 56. He was a graduate of the University of Louisville, 1883, and had practiced in Ashland for 32 years.

HARRY JAMES MUSTARD, M.D.

Dr. Harry J. Mustard, an intern at the City Hospital, St. Louis, died at the institution May 14, 1915, following an operation, aged 30. He was a graduate of Rush Medical College, 1913, and soon after entered the service at the St. Louis City Hospital where he won the esteem and affection of all who knew him. The patients, nurses and doctors at the institution wore crepe following his death.

JOHN N. FRANK, M.D.

Dr. John N. Frank, of St. Louis, died at his home in that city May 3, 1915, aged 66. He was a graduate of the St. Louis Medical College, 1869. He served two terms as coroner of St. Louis.

GUILFORD D. YOKOM, M.D.

Dr. Guilford D. Yokom, of St. Joseph, a graduate of the Chicago Homeopathic Medical College, 1879, died following an operation at St. Joseph, May 19, 1915, aged 70.

Dr. Yokom was born at Niagara Falls, Canada. After completing his medical course he settled in Colorado, where he practiced 23 years. Several years ago he came to Missouri, locating at Parksville, Platte county, and joined the Platte County Medical Society and the Missouri State Medical Association, after subscribing to their regulations. About three years ago he retired from active practice and moved to St. Joseph.

WILLIAM E. WEBB, M.D.

Dr. William E. Webb, of Macon, died at his home April 7, 1915, aged 60. He had been in poor health for the past two years. He was born in Perryville, Ky., his mother being a lineal descendent of Balboa the discoverer of the Pacific Ocean. Dr. Webb was educated in the schools of Lexington, Ky., and obtained his medical degree from the Medical College of Ohio in 1879. After practicing in Kansas for several years he moved to Macon in 1888, where he remained active in the profession until his disability. He was a member of the Macon County Medical Society and the Missouri State Medical Association and held many positions of honor and trust in several fraternal and benevolent societies.

SAMUEL G. KELLY, M.D.

Dr. Samuel G. Kelly, of Sedalia, councilor of the 17th District of the State Medical Association, died at his home April 24, of apoplexy, aged 35. He was born in Knobnoster, Mo., where he attended the public schools and graduated from the high school, entered the University of Michigan, where he studied two years, after which he took up the study of medicine at Northwestern University, by which he was graduated in 1903. He took post-graduate work in several eastern schools and specialized in eye and ear diseases. He practiced in Sedalia during his entire professional life, where he was honored and esteemed by all who knew him. He was an earnest and conscientious physician devoted to his home and his profession and leaves a wide circle of friends who mourn his loss. He was married in 1905 to Miss Ethel Roemer, who survives him.

NEWS NOTES

ALL had a good time at St. Joseph.

EXCELSIOR SPRINGS won the 1916 meeting by unanimous consent.

DID you take a "brown-eyed maiden" through "Lover's Lane St. Jo"?

BUCHANAN COUNTY MEDICAL SOCIETY members spared neither themselves nor their friends in entertaining their guests.

DR. W. WORTH VANDIVERT, of Bethany, has been appointed president of the county board of health of Harrison county.

DR. JAMES STEWART, superintendent of hygiene of the public schools of St. Louis, is recovering from an operation.

WANT some good oil for your automobile? Marshall Oil Company are willing to show you. See their advertisement in this issue.

THE American Proctologic Society will hold its 17th annual meeting at San Francisco June 21 and 22 with headquarters at the St. Francis Hotel.

THE discussion on the scientific papers was so earnest that the Chair was compelled to interrupt almost all the speakers at the expiration of the five minute limit.

REPORTS from Kansas City say the police and federal authorities have failed to break up several gangs of drug sellers operating on the streets who peddle narcotics to addicts.

DR. M. P. RAVENEL, professor of Preventive Medicine at the State University, delivered the principal address at the graduation exercises of the nurses of the Jewish Hospital, St. Louis, May 25.

DR. R. M. FUNKHOUSER, of St. Louis, delivered a lecture at Greenville, Illinois, before the student body of the Greenville College, April 20, on the subject, "Social Diseases and Eugenics."

THE Southwest Missouri Medical Society held its annual meeting at Springfield, April 29 and 30. Dr. R. M. Rogers of Mansfield is the president. About 150 members attended the meeting.

THE Medical Society of the City Hospital Alumni, St. Louis, has requested the health department to require a physical examination of waiters in hotels, clubs and restaurants at stated intervals.

HEALTH SUNDAY was lauded by Rev. George S. Murphy, president of the Ministerial Alliance, at the opening session of the scientific program. It will undoubtedly become an annual feature.

DR. GEORGE C. MOSHER, of Kansas City, was the guest of the Blissfield (Michigan) Medical Society last month. He is spending a few weeks in Michigan to recuperate from an operation performed in Kansas City.

The St. Louis University will send an expedition to British Honduras this summer to make arrangements for the study of biology and preventive medicine with the object of establishing a permanent station for work in these sciences.

DR. HASBROUCK DELAMATER, of Kansas City, has entered private practice and taken offices in the Lathrop building. He was until recently assistant health commissioner of Kansas City, which office was abolished by the hospital and health board.

DR. BONDURANT HUGHES, superintendent of the State Sanatorium for Tuberculosis at Mt. Vernon, has resigned. Dr. C. C. English, who has been resident physician at the institution for several years, was appointed to fill the position of superintendent.

SEVEN members who were privileged to appear on the program as essayists failed to read their papers: Drs. P. H. Swahlen, John Young Brown, A. E. Taussig, Fred B. Hall, St. Louis; R. D. Ramey, Garden City; C. F. Briegleb, St. Clair; W. G. Thompson, Holden.

DR. W. E. CARY announces the opening of his hospital for the care and treatment of nervous and mental diseases at Kansas City. Dr. Cary was formerly resident physician at State Hospital No. 2 at St. Joseph. The advertisement of his institution will be found in this issue.

DR. HALSEY M. LYLE announces the opening of his hospital for the treatment of skin diseases and cancer at Kansas City. For several years Dr. Lyle has made preparations for undertaking hospital treatment of these conditions and we are glad to announce the opening of his institution. His advertisement will be found in this issue.

DR. T. S. MANNING, of St. Louis, who was arrested several weeks ago for writing numerous prescriptions for narcotic drugs, was indicted by a federal grand jury for violation of the Harrison anti-narcotic law. He is charged with furnishing patients with opium and morphine without making the reports required by the government.

DR. J. FRANK HARRISON, of Mexico, was elected president of the Linton District Medical Society at the semi-annual meeting held in Mexico, May 4. Other officers elected are: first vice-president, Dr. J. G. Moore, Mexico; second vice-president, Dr. C. E. Gibbs, Bowling Green; secretary, Dr. N. R. Rodes, Mexico; treasurer, Dr. Clarence A. Rothwell, Mexico.

GRADUALLY municipal authorities are learning that the personal crotchets of citizens in relation to health rules must be overridden in order to protect the health of the community. At Springfield and St. Joseph it has been found necessary to bring suit against some citizens, according to newspaper dispatches, to compel them to make sewer connection and maintain premises in a sanitary condition.

Now the innominate bone has been found out. So mysterious was this portion of the bony framework of the body to the ancients who attempted medical nomenclature that they could find no suitable name for it and so it became the "no name" bone. Along comes an osteopath who says it should be called the suicide bone, or blue devils bone, or something of that kind, because suicides not otherwise accounted for have a twist in the innominate. Coroners, please take notice.

The Wabash railroad announces connections from St. Louis with the American Medical Special from New York en route to San Francisco. The car from St. Louis leaves at 9:01 p. m., June 17, arrives at Omaha, 9:15 a. m., June 18, and joins the American Medical Special at that point. The Special will arrive at San Francisco, 7:50 a. m., June 20. Tickets include a trip to San Diego, via Los Angeles, and are good for ninety days. The return trip may be via another line if desired. The round-trip fare from St. Louis is \$57.50.

THE St. Louis Medical Society is attacking the contract practice problem with vigor and intelligence. Trephining for \$30 and setting fractures of both bones of the leg for \$15 are some of the amounts insurance companies allow physicians for services when working under contract. After treatment free and promise to testify in court along lines suggested by corporation attorneys are other obligations imposed upon physicians by these contracts. The St. Louis Medical Society, if it continues in this undertaking with calm and cool judgment, will render notable service to the profession in the protection of the individual physician. Contract practice should be controlled by the profession, not the profession controlled by contract practice.

DR. H. T. PRICE, of St. Louis, has been appointed medical examiner of the Efficiency Board of the city at a salary of \$1,500 a year. He will have charge of the physical tests in the examinations of applicants for positions in the city's service. Although making the second highest grade in the examination for this position the board decided to appoint him instead of the one who ranked higher, because Dr. Price possessed other qualifications which in the judgment of the board better fitted him for the work.

THE Secretary's report shows 2,521 members paid up and in good standing on May 10, out of a total membership of 3,189. Since then 60 other members have paid, making 2,581 members in good standing at this writing. This is the largest number of paid-up members we have had at the beginning of any annual session. This healthy condition of the membership is largely due to the untiring efforts of the secretaries of the component societies, and the realization on the part of members that their State Medical Association is a real benefit and protection to them.

DR. S. J. HARWOOD, proprietor of the Palms Maternity Hospital at East St. Louis, Ill., has been convicted by a federal grand jury of misuse of the mails and sentenced to fifteen months in the federal penitentiary. Many members will remember this institution as the one which sent circular letters to Missouri doctors recently soliciting obstetrical cases. Accompanying the circular was an unsigned check for twenty-five dollars, or some such amount, and the promise that the check would be signed and become payable on receipt of the patient. We hope none of our members "rose to the bait" for the sequel proves that the institution was not worthy of the patronage of honorable physicians.

THE Missouri Pacific railroad has put on a new, fast, all steel train between St. Louis and San Francisco, via Kansas City, Pueblo, Glenwood Springs, Salt Lake City and Oakland, with side trip to Denver. The train is called the Scenic Limited, and in addition to the marvelous scenery that makes the Denver and Rio Grande railroad one of the most popular routes, this train passes through a new scenic territory opened up by the construction of the Western Pacific railroad through the enchanting beauties of Feather River Canon. The agents assure us the views are not obstructed by snow sheds at any point along the line. Tickets permit a divergent return route and include a trip to San Diego via Los Angeles, without extra fare. The railroad fare is \$57.50 for the round trip from St. Louis.

KANSAS CITY'S board of health has discovered that alcohol and efficiency do not mix to the advantage of employees of the department. The board proposes to increase the one by curtailing the means of obtaining the other—temporarily at least. It is said that some employees of the health department when reporting for duty were accompanied by very pronounced evidences of being "jagged," hence the ruling recently promulgated that "hereafter" employees appearing for work in an intoxicated condition will be suspended without pay, and may be dismissed.

DR. EMORY LANPHEAR, of St. Louis, threatens to bring suit against the St. Louis Medical Society for damages to his practice, according to statements in the St. Louis newspapers. It is said that some of the hospitals in St. Louis have closed their doors to Dr. Lanphear following a resolution of the St. Louis Medical Society requesting hospitals to require members of their staffs and others who attend patients in the hospitals to conform to the principles of ethics of the American Medical Association. Dr. Lanphear accuses the Society of attempting to form a medical trust and unionize doctors.

A REPRESENTATIVE body of the most distinguished elements of the medical profession in St. Louis, including the greater number of the scientific faculties of Washington University and of St. Louis University, members of the Biological Society of St. Louis, and a number of distinguished gentlemen who have been interested in the advancement of medical science in St. Louis, tendered a testimonial dinner at the University Club, May 25, to Dr. Leo Loeb. Among the speakers were, Professor Terry of Washington University, Professor Thompson of St. Louis University, Mr. Edward Mallinckrodt, Jr., Professor A. G. Pohlman, Mr. Regis Chauvenet, Professor Gerry and Dr. George Gellhorn.

DR. MAX C. STARKLOFF has been reappointed health commissioner of St. Louis under the new charter which gives the department wide latitude in matters affecting the health of the people. In spite of a very meager appropriation for the department the service under Dr. Starkloff's administration during the past four years has reached a high plane of efficiency. In the control of infectious and contagious diseases he has shown a specially good record and several outbreaks that threatened widespread disaster were promptly confined to a limited area. Quacks, charlatans and illegal practitioners have learned to fear the department's prosecutions. His salary has been increased from \$3,000 to \$5,000 and he holds office at the pleasure of the director of public welfare.

DR. RALPH L. THOMPSON, of St. Louis, has accepted the assignment as pathologist in the hospital unit offered by Dr. John B. Murphy for service in the British army. Dr. W. E. Leighton, of St. Louis, has accepted the assignment in the same unit as one of the surgeons. *The Journal of the A. M. A.* for May 15 contained an announcement of the acceptance of this unit by the British army, from which we quote the following: "The staff will consist of thirty-two medical men, including three operating surgeons, one consulting physician, a radiographer, a clinical pathologist, an ophthalmic surgeon and a specialist on diseases of the ear, nose and throat, and seventy-five fully trained nurses. The pay of the entire medical and nursing staff will be at British army rates. Two of the medical staffs will receive pay and allowances of lieutenant-colonels, six of them will rank as majors and twenty-four of junior rank, with salary of 24 shillings, or \$6 a day. The nursing staff consists of one matron, twenty-six sisters and forty-eight staff nurses. The hospital will have accommodations for 1,040 patients. . . . Dr. James M. Neff will be in command of the staff, Dr. Philip S. Chancellor will go as consulting physician and Drs. John Edward Kelley and John G. O'Malley have thus far been selected as members of the staff."

NEW LICENTIATES IN MISSOURI

List of applicants for license to practice medicine in Missouri who passed the examination of the board held in St. Louis March 22-24, 1915. Six other applicants failed to pass. Those who passed are:

Brickford, Wallace M., Marshall, Mo.
 Carle, Horace Woodward, St. Joseph, Mo.
 Cook, Frederick Marshall, St. Louis, Mo.
 Craig, James Larkin, St. Louis, Mo.
 Holt, Elmer Ellaworth, St. Louis, Mo.
 Hunter, Hobart Russell, St. Louis, Mo.
 Kilpatrick, George Alexander, Wilburton, Okla.
 Kleissle, W. Benton, St. Louis, Mo.
 Lawson, Gustav W., St. Louis, Mo.
 Lee, Elbert Johnson, Jr., St. Louis, Mo.
 McGlasson, Thomas Freeman, Lewistown, Mo.
 Martin, Clarence, St. Louis, Mo.
 Martin, Prince Eugene, Meridian, Miss.
 Moore, Samuel Elijah, Cleveland, O.
 Muus, Walden Evermont, Montgomery City.
 Penn, Robert McCulloch, St. Louis, Mo.
 Price, Herbert Hall, St. Louis, Mo.
 Sample, Wm. Dana, Fredericktown, Mo.
 Walthall, Solomon LeRoy, Springfield, Mo.
 Warfield, Sylvanus Holsey, Bowling Green, Ky.
 Weaver, Robert Ellis, St. Louis, Mo.
 Young, John Smith, St. Louis, Mo.
 Major, Hermon S., Fulton, Mo.
 Cope, Paul F., Kansas City, Mo.
 Renn, Thomas H., St. Louis, Mo.

MEMBERSHIP CHANGES, MAY

NEW MEMBERS

Christos Abramopoulos, Kansas City.
 C. H. Allen, Odessa.
 Hubert O. Bell, St. Louis.
 John A. Bellamy, Bellflower.
 Louis Boonschaft, St. Louis.
 H. E. Bowers, Galt.
 O. T. Cohen, Linneus.
 S. S. Cox, Wellsville.
 Roy C. Dripps, St. Louis.
 E. W. Ewing, Spickard.
 John H. Fowler, Bellflower.
 Edward E. Heiple, St. Louis.
 Lois P. Habig, St. Louis.
 Wm. Henry Horton, Purdy.
 Louis O. Home, Linneus.
 Guy A. Koon, Galt.
 Clarence A. McGuire, Kansas City.
 Grace S. Mountjoy, St. Louis.
 H. F. Mundy, St. Joseph.
 Walden E. Muns, Montgomery City.
 James Park Neal, Kansas City.
 J. A. Nevins, North Salem.
 John O'Connell, St. Louis.
 Samuel D. Packwood, St. Joseph.
 Carl A. Powell, St. Louis.
 Frank I. Ridge, Kansas City.
 Reinhold Speer, St. Louis.
 Alfred L. Wessling, Freeburg.
 Lee R. Williams, Jonesburg.
 Rex Williams, Kansas City.

CHANGE OF ADDRESSES

Amin Boutros, St. Louis to Capron, Okla.
 G. Wiley Broome, 3838 Juniata to 2651 Terrace Lane, St. Louis.
 Luther M. Calloway, Argyle Bldg. to 4214 E. 15th St., Kansas City.
 C. R. Dudley, 400 Chemical Bldg. to 1501 Locust St., St. Louis.
 F. R. DeHoney, 4732a Cook Ave. to 1473 Rowan Ave., Kansas City.
 H. DeLamater, Waterworks Bldg. to 2903 Troost Ave., Kansas City.
 Charles Greenberg, 6th and Francis Sts. to 8th and Edmond Sts., St. Joseph.
 J. W. Hardesty, Herculaneum to Leadwood.
 John D. Fakes, LaForge, Mo. to Fisher, Ark.
 Lionel S. Luton, Victoria Bldg. to Metropolitan Bldg., St. Louis.
 Joseph H. Peck, Tooele, Utah to Gunnison, Utah.
 Thomas O. Klingner, Crank Bldg. to 318 Landers Bldg., Springfield.
 R. L. Pomeroy, Hunter to Warsaw.
 Fred N. Pugsley, Victor Bldg., to 781 Highland Ave., Kansas City.
 J. T. Redwine, Doniphan, Mo. to Springfield, Ill.

C. C. Rice, Commercial Bldg. to 713 Lathrop Bldg., Kansas City.

Ernest Sachs, 5557 Berlin Ave. to Buckingham Annex, St. Louis.

Frederick C. Simon, Metropolitan Bldg. to 615 Wall Bldg., St. Louis.

Thos. H. Shy, Granville to Centerville.

Patrick Sherlock, Novelty to LaPlata.

B. B. Simmons, Toole Bldg. to Logan Bldg., St. Joseph.

W. A. Shelton, Argyle Bldg. to 713 Lathrop Bldg., Kansas City.

C. D. Trask, 14th & Summit to 713 Lathrop Bldg., Kansas City.

R. P. C. Wilson, Platte City to Marshall.

REINSTATED

E. C. Renaud, St. Joseph.

RESIGNED OR DROPPED

Benedict H. Edelin, Gorin.

DECEASED

Samuel G. Kelly, Sedalia.

M. D. Lewis, Columbia.

Wm. E. Webb, Macon.

MISCELLANY

THE MEDICAL MEN

The medical men of the state are to meet together here with but one purpose in view. That purpose is to seek new ways of instructing the general public how to so live that doctors will not be necessary. So far as the physicians can accomplish their aim, they will wipe themselves out of existence while they are in St. Joseph.

But, of course, we shall still have doctors, no matter how successful this state meeting of their profession may prove to be. The reason is that the people generally will not consent to doing as the medical men advise, and therefore cannot hope to keep well. There will be sickness and doctoring and expense and loss of life in the future, all because the counsel of those who know how to abolish such conditions will not be followed.

It is a wonder, really, that the doctors do not give us up as a bad lot, not worth worrying over.—St. Joseph Gazette.

DISEASE "CARRIERS"

A St. Louis medical body has asked the City Health Department to require waiters and others handling food for the general public to be frequently examined for evidences of communicable disease. This is certain to bring forth a long-drawn howl of protest from certain devotees of "medical freedom." It will be regarded as another attempt of the "medical trust," always capitalized in the denunciations of the protester, to bring the free-born American citizen under some sort of a vague thralldom. But is it?

Tuberculosis, diphtheria, typhoid and certain other preventable diseases are communicated from victim to victim. There are other diseases of an even more terrible and disgusting character that may be com-

municated in much the same general manner as tuberculosis. Most of us know something of the history of that famous typhoid "carrier," the "Typhoid Mary," who has spread the disease in several hospitals and hotels. That there are individuals who carry about the germs of disease with them for long periods, even for the remainder of their lives, and yet appear entirely free from any evidence of disease, is well known.

The public has a right to protection against such disease "carriers" and against those workers who may be going about their duties, in the handling of food, suffering from communicable diseases. No man has any inalienable right to scatter disease germs, a question that has been definitely settled in the matter of quarantine regulations against the spread of infectious ailments. Such a regulation as that proposed by the City Hospital Alumni will work a hardship on some diseased or infected men and women, but it would undoubtedly limit the spread of communicable disease.—*St. Louis Republic*.

BEWARE OF CANCER "CURES"

A man was convicted in Judge Latshaw's court yesterday of practicing medicine without a license. The evidence showed he was operating a "cancer company." The jury gave him the maximum penalty.

Good for the jury!

There are no more despicable sharks than those who prey off human ills by operating fake "cures." The quacks who get money on the pretense of curing cancer are the worst of all. They not only rob the unfortunate men and women who come to them, but often they prevent their going to some reputable physician who might put them in the way of being cured by an operation or by the use of Roentgen rays. After fooling along with the quack for months the patient may finally go to a competent medical man, only to find that the disease has progressed too far to be helped.

Cancer is curable in its early stages. But it is not curable by medicine. The only successful treatment is by a surgical operation, or in cases where that is not practical, by Roentgen rays or the radium rays.

The person who has reason to suspect that a cancer is developing should go at once to his family physician—never to the advertising quacks. The physician will not be able to give the necessary treatment, but he will direct the patient to a competent surgeon or skin specialist who can do the work.

If any serum or vaccine treatment should finally be worked out, or if some other method of dealing with the disease should be found, it will at once come into general use with the regular medical practitioners. Meanwhile it should be remembered that the only safety for the cancer sufferer is from an early operation by a good surgeon, or from prompt treatment by a reputable skin specialist with Roentgen rays or radium rays.

To go to the cancer "cure" quack is to abandon hope.—*Kan. City Star*.

EXAMINATION OF CANDIDATES FOR ASSISTANT SURGEON

United States Public Health Service

Boards of commissioned medical officers will be convened to meet at the Bureau of Public Health Service, 3 B. Street, S. E., Washington, D. C., and at the Marine Hospitals of Boston, Mass., New York, N. Y., Chicago, Ill., St. Louis, Mo., Louisville, Ky., New

Orleans, La., and San Francisco, Cal., on Monday, June 21, 1915, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the Public Health Service, when applications for examination at these stations are received in the bureau.

Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, and must furnish testimonials from two responsible persons as to their professional and moral character. Service in hospitals for the insane or experience in the detection of mental diseases will be considered and credit given in the examination. Candidates must have had one year's hospital experience or two years' professional work.

Candidates must be not less than 5 feet, 4 inches, nor more than 6 feet, 2 inches in height, with relatively corresponding weights.

The following is the usual order of the examinations: 1 physical; 2, oral; 3, written; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate and that they will serve wherever assigned for duty.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists of examination in the various branches of medicine, surgery and hygiene.

The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital.

The examination usually covers a period of about ten days.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Assistant surgeons receive \$2,000, passed assistant surgeons \$2,400, surgeons \$3,000, senior surgeons \$3,500, and assistant surgeon-generals \$4,000 a year. When quarters are not provided, commutation at the rate of \$30, \$40 and \$50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address, Surgeon-General, Public Health Service, Washington, D. C.

INFORMATION FOR PERSONS DESIRING TO ENTER THE MEDICAL CORPS OF THE UNITED STATES NAVY

A candidate for appointment in the Medical Corps of the Navy must be a citizen of the United States, between 21 and 30 years of age, a graduate of a reputable school of medicine, and must apply for permission to appear before a Board of Medical Examiners. The application must be in the handwriting of the applicant, and must be accompanied by the following certificates:

(a) Letters or certificates from two or more persons of good repute, testifying from personal knowledge to good habits and moral character.

(b) A certificate to the effect that the applicant is a citizen of the United States.

(c) Certificate of preliminary education: The candidate must submit a certificate of graduation from an accepted high school or an acceptable equivalent.

(d) Certificate of medical education: This certificate should give the name of the school and the date of graduation.

(e) If the candidate has had hospital service or special educational or professional advantages, certificates to this effect, signed by the proper authorities, should also be forwarded.

The applicant will save unnecessary correspondence if he will make sure when submitting his application that the qualifications enumerated above are clearly and plainly described in his letters or certificates.

FORM OF APPLICATION

(This form is not to be filled in here, but copied on a separate sheet in the handwriting of the applicant.)

....., 191..

Sir: I request permission to be examined for an appointment as assistant surgeon in the Medical Reserve Corps, with a view to subsequent examination for appointment in the Medical Corps of the United States Navy.

I was born at....., and wasyears of age on the.....day of 191..., and am a citizen of the United States, residing in..... county of....., in the State of....., and graduated from.....Medical School in 19....

I forward herewith letters testifying to my moral character, habits, citizenship, preliminary education, and professional qualifications.

Very respectfully,

Chief of the Bureau of Navigation,
Navy Department, Washington, D. C.

PAY AND ALLOWANCE TABLE

Rank and Length of Service	Pay per Annum on Shore	Allowances per Annum for Quarters†	Total Pay per Annum on Shore	Pay per Annum at Sea
Assistant Surgeons,* rank of Lieutenant (junior grade)...	\$2,000	\$432	\$2,432	\$2,200
Passed Assistant Surgeons, rank of Lieutenant.....	2,400	576	2,976	2,640
After 5 years in service....	2,640	576	3,216	2,904
After 10 years in service....	2,880	576	3,456	3,168
After 15 years in service....	3,120	576	3,696	3,432
Surgeons, rank of Lieutenant Commander:				
After 5 years in service....	3,300	720	4,020	3,630
After 10 years in service....	3,600	720	4,320	3,960
After 15 years in service....	3,900	720	4,620	4,200
After 20 years in service....	4,000	720	4,720	4,400
Medical Inspectors, rank of Commander:				
After 15 years in service....	4,500	864	5,364	4,950
Medical Directors, rank of Captain:				
After 15 years in service....	5,000	1,008	6,008	5,500
Surgeon General, rank of Rear Admiral.....	6,000	1,152	7,152	6,600

DEDICATION OF NEW BUILDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SCHOOL

On April 29 and 30 the new buildings of the Washington University Medical School in St. Louis were dedicated. On the morning of the 29th exercises were held in the Assembly Hall of the school at which the keys of the buildings were formally presented to the Acting Chancellor of the University by the architect. The visiting delegates were then presented to the

Chancellor and President of the Corporation. The delegates were as follows:

Harvard University, President Abbott Lawrence Lowell; Yale University, Dean George Blumer; University of Pennsylvania, Dean William Pepper; Brown University, Mr. Augustus Levi Abbott; University of Pittsburgh, Dean Thomas Shaw Arbuthnot; St. Louis University, Dean Hanau Wolf Loeb; Medical Corps of the United States Army, Captain Thomas Dupuy Woodson; Western Reserve University, Dean Carl August Hamann; Lafayette College, President John Henry MacCracken; Tulane University of Louisiana, Prof. Rudolph Matas; St. Louis Medical Society, Dr. Robert Emmet Kane; Knox College, President MacClelland; University of Michigan, Professor Frederick George Novy; University of Missouri, Acting-Dean Guy Lincoln Noyes; University and Bellevue Hospital Medical College, Vice-Dean Samuel Albertus Brown; New York Academy of Medicine, Dr. Edward Dix Fisher; Missouri State Medical Association, Dr. Frank Joseph Lutz; The University of Edinburgh, Prof. Lindsay Stephan Milne, University of Kansas; Central Wesleyan College, President Otto Edward Kriege, Prof. Albert William Ebeling; Detroit College of Medicine and Surgery, Dean B. R. Shurley, Prof. Charles Godwin Jennings; Purdue University, Prof. Oliver Perkins Terry; University of Minnesota, Prof. James Edward Moore; Drury College, President James Gilmer McMurtry; University of Cincinnati, Prof. John Ernest Greiwe, Dr. Christian Holmes; Johns Hopkins University, Prof. Theodore Janeway; Missouri Valley College, Mr. Alphonzo Chase Stewart; Missouri Botanical Garden, Professor George Thomas Moore; Leland Stanford Junior University, Dr. Harold Phillip Kuhn; Dennison University, Dr. E. B. Packer; University of Kansas, Prof. John Sundwall; Rockefeller Institute for Medical Research, Dr. Simon Flexner; Memorial Institute for Infectious Diseases and Rush Medical College, Dr. James Bryan Herrick; American College of Surgeons, Dr. Major Gabriel Seelig; University of Illinois, Dr. Dean D. K. A. Steele, Professor A. C. Eycleshymer.

An address was then made by Dean Opie of the Medical School, who outlined the early history and reorganization of the school and the ideals which it represents. He was followed by Dr. William H. Welch of Johns Hopkins, who spoke of the development of clinical teaching in American medical education and of the success which had attended the introduction of full time clinical teaching at Johns Hopkins, and which is under consideration at Washington University.

After luncheon addresses were made on the lawn of the Medical School by President Lowell of Harvard and President Vincent of the University of Minnesota. Dr. Lowell spoke on the importance of preventive medicine as a public service, and of the necessity of a broad general education as a basis for the training of the physician. Dr. Vincent spoke of the position graduate studies should hold in medical education. Dr. Henry S. Pritchett, President of the Carnegie Foundation for the Advancement of Teaching, the third essayist of the afternoon, was unable to be present and his paper was read by Professor Lowes of the college faculty. His paper was on Medical Education in Missouri. After the addresses the guests of the university were entertained at a garden party.

In the evening a banquet was held at the St. Louis Club, at which Mr. Robert S. Brookings, president of the Corporation of Washington University presided. Responses to toasts were made by President Hill of the University of Missouri, former Governor David R. Francis, Dr. Abraham Jacobi and Dr. W. H. Howell.

Friday the 30th was known as Alumni Day and in the morning talks were given by Dr. W. T. Porter in behalf of the alumni of the St. Louis Medical

College, and Dr. Robert Terry in behalf of the alumni of the Missouri Medical College. These two institutions were united to form the Washington University School in 1899. Dr. Fred. T. Murphy then spoke to the alumni in behalf of the Medical School Faculty.

In the afternoon Dr. George Dock spoke on the relation of the academic hospital to the community. He was followed by Surgeon-General W. C. Gorgas, who spoke of the eradication of yellow fever and malaria in Havana and in the Canal Zone and the possibilities that preventive medicine holds for the future.

In the evening academic exercises were held in the University Chapel on the University campus, followed by a reception in the building of the School of Fine Arts. The following honorary degrees were given at the exercises:

Doctor of Science, Dr. W. T. Porter, Dr. O. E. Folin and Dr. Theodore Janeway.

Doctor of Laws, Prof. H. H. Chittenden, Dr. W. C. Gorgas; President H. R. Hill, University of Missouri; President A. L. Lowell, Harvard; President George E. Vincent, University of Minnesota; Dr. F. P. Mall; Dr. Abraham Jacobi; Dr. Simon Flexner; Dr. W. H. Welch; Dr. S. J. Meltzer; Prof. W. H. Howell; Dr. Rudolph Matas. Doctor of Law (in absentia) Prof. Nathaniel Wille, University of Christiana.

Opportunity was provided in the program for the inspection of the laboratories of the Medical School and the affiliated Barnes and St. Louis Children's Hospitals. The laboratories were opened in September and consist of two four-story and basement buildings, 209 by 56 feet. In the North building are located the administrative offices, library, assembly hall, laboratories of Preventive Medicine and Surgery, and the Department of Anatomy. The South building is occupied by Biological Chemistry, Physiology and Pharmacology. A third building five stories in height and 232 by 60 feet, which completes the group, is on the hospital lot directly across the street from the other laboratory buildings. The basement and first floors are occupied by the Out Patient Dispensaries of the hospitals. On the second floor is located the clinical laboratory of the Department of Medicine, while the Department of Pathology occupies the third and fourth floors. Animal quarters and runways are provided on the roofs of all buildings. The three laboratory buildings were erected at a cost of \$1,200,000, which brings the outlay for new buildings for the Medical School, including the hospitals, to over \$3,000,000.

One of the interesting features of dedication week was the presentation to the Washington University Medical School of a number of manuscripts and papers of William Beaumont by his granddaughter, Miss Irwin. Included among these are the original manuscripts and notes of Beaumont's experiments on Alexis St. Martin and the agreement entered into by St. Martin to accompany Beaumont for a period of two years for the purpose of experimentation. Dr. F. J. Lutz spoke of Beaumont as a practitioner and Dr. Joseph Erlanger on Beaumont as an investigator. A room has been set aside in the library of the Medical School to house the manuscripts, known as the Beaumont room.

On April 28 Dr. Simon Flexner delivered a popular lecture before the Washington University Association on "The Control of Infective Diseases."

In connection with dedication week of the Medical School of Washington University a series of four lectures on Protein Metabolism was delivered by Dr. Otto K. Folin. The subjects were as follows:

"The Utilization of Food Protein." "Tissue Metabolism with Special Reference to Creatinin." "Protein Metabolism with Special Reference to Uric Acid." "The Occurrence and Significance of Phenols and Phenol Derivatives in the Urine."

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February, March, April, 1915

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SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES
WHICH HAVE PAID THE STATE ASSESSMENT
FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
Webster County Medical Society, Jan. 1, 1915.
Sullivan County Medical Society, Jan. 2, 1915.
Cooper County Medical Society, Jan. 16, 1915.
Camden County Medical Society, Feb. 2, 1915.
McDonald County Medical Society, Feb. 12, 1915.
Daviess County Medical Society, Feb. 22, 1915.
Christian County Medical Society, March 22, 1915.
Ste. Genevieve County Med. Soc., March 24, 1915.
Atchison County Medical Society, March 25, 1915.
Benton County Medical Society, March 26, 1915.
Schuyler County Medical Society, March 30, 1915.
De Kalb County Medical Society, April 12, 1915.
St. Charles County Medical Society, April 14, 1915.
Barton County Medical Society, April 15, 1915.
Carroll County Medical Society, April 17, 1915.
Platte County Medical Society, April 19, 1915.
Clark County Medical Society, April 19, 1915.
Audrain County Medical Society, April 21, 1915.
Putnam County Medical Society, April 24, 1915.
Ray County Medical Society, May 13, 1915.

ST. LOUIS MEDICAL SOCIETY

November 28, 1914

REPORT OF CASES OF CEREBROSPINAL SYPHILIS, TREATED
WITH SALVARSANIZED SERUM. BY DR. LEO BARTELS

DISCUSSION

Dr. A. H. Deppe: At the State Hospital at Kankakee we took a series of twenty cases of paresis and treated them according to the Swift-Ellis method, but we did not see any improvement from the clinical standpoint, although at times we noticed a decrease in the cell count, and on several occasions our Wassermann reaction with the spinal fluid was negative. However, on repeated examination, the Wassermann reaction became positive. We tried the Swift-Ellis

method on one case of tabes in an attendant in its incipency and saw no benefit from a clinical standpoint, but were able after four or five weeks to get an absolute negative Wassermann of the spinal fluid, which remained so up to the last time I saw the man.

Kaplan found by using the Swift-Ellis method that he had remarkable results in those types which he called the usual serological type. In the second type in which the Wassermann remained positive all the way through—and I think Dr. Bartels had the misfortune of having these to deal with—he found no benefit whatever. From his record in tabes I should think the Swift-Ellis method is of some benefit. However, we have seen the same results from mercury.

From observing my cases of paresis I came to the conclusion that the increase in cells was an indication of the resistance of the nervous system to the spirochetæ and that these people with marked deterioration did not react normally and gave a low cell count. So I do not consider a low cell count an indication of improvement in tabes or in paresis.

We must also bear in mind the marked periods of remission. I can recall one case of paresis who had entered the institution of Kankakee four years before, suffering from paresis. He was discharged two years later and carried on an active business, no one but his superior seeing that there was any defect in him. His superior told me, however, that he noticed this man was not as apt in his calculations as he was previously. It goes to show that a lot of these so-called cases of cure with the Swift-Ellis method of treatment should be very conservatively judged.

Another case came into the institution in a markedly deteriorated state, and remained for four months in this state, then suddenly cleared up and entered a state of remission. In this man, I was able to follow the spinal fluid findings. When he entered, he had a cell count of 10, positive globulin reaction, gold reaction and positive Wassermann. In the state of remission, his cell count went up to 60.

In cerebrospinal syphilis, where the prognosis is decidedly different from paresis, and which readily improves under treatment, markedly under mercury, we had one case with psychosis in which with the Swift-Ellis treatment we saw wonderful results; but, at the same time, another case came in which we treated with mercury and we had the same results, only it took a longer time.

Dr. M. F. Engman: Some months ago I was asked to try the Swift-Ellis method on a case of paresis in rather advanced stage, which was on the eve of remission. I told them that I did not think much could be done by that method and could not promise them anything. Afterwards the wife came back to me and said she had decided to turn the case over to Christian Scientists. I met her about a month ago and asked how her husband was. "O, he is just splendid, all right, going around, seems to be almost normal," she replied. This was a cure by the Christian Scientists, but only a natural remission.

In paresis, of course, remissions come on suddenly and last for some time, and we cannot say that much depends upon treatment. I have not seen any results in paresis that we could attribute to this particular method of treatment, but in tabes I think I have seen some rather brilliant results, compared to the methods of years ago in the treatment of syphilis with old salvarsan. I have never seen any results from neo-salvarsan, but after numerous doses of the old salvarsan in the ordinary intravenous method I have seen results in tabes and early paresis that have now continued for a sufficient length of time to permit arriving at the conclusion that the result was no doubt due to treatment.

I cannot understand on what basis the Swift-Ellis method can produce results when tabes and paresis are parenchymatous diseases. The spirochetæ are

embedded in the tissues along the vessels, and the only way by which the salvarsan can reach them is through the blood vessels. There must be some peculiar chemical condition which prevents the salvarsan from acting on the nerve tissue as it does in other tissues. I believe that Ehrlich says it is on account of the high molecular weight of all antisyphilitic chemicals.

Dr. Jos. L. Boehm: I do not believe we are justified in using intraspinal medication without determining previously whether or not there is any benefit from intravenous medication. I believe there is a unanimity of opinion that many cases of tabes are temporarily benefited by intravenous injection of salvarsan. In just such cases we may in addition use intraspinal injection and herald some marked improvement symptomatically as due to the intraspinal injection, losing sight of any possible benefit derived from the intravenous method. The Swift-Ellis method of treatment should in all cases be supplemented by the mercury and iodine treatment.

Dr. Frank R. Fry: We are now awakening to the observation that the intraspinal method of salvarsanized serum has been overworked and reaching a place where we will pause long enough to use the right kind of controls, physiologically, chemically and clinically.

One unpleasant phase of the subject is the commercial side. A good many of us, especially the younger among us, have to possess some moral courage not to use this method more or less extensively because it is used so extensively in other quarters. I suppose not a week passes, and it sometimes happens several times in a week, that I am not approached about the advisability of using it as the method advertised is now well known to the laity. It is difficult to give them an argument suggestive of proper conservatism; in fact, it is even difficult to restrain our professional friends who come to us as neurologists because the facts on which our conservatism should be based are not readily presented in a short talk. I have recently read with some satisfaction a paper by Dr. Sachs, of New York, in collaboration with Dr. Strauss, in which he cites some of these points in a satisfactory way. For example, neurologists, very probably more than other practitioners, are conscious of the inconveniences of the mere lumbar puncture; that is, they are aware that in itself it is often a risk. This has been largely overlooked. Then too there is no question that there are risks attending the injection of the salvarsanized serum that are peculiar to the method.

The cell count of cerebrospinal fluid has been diminished in some instances by the injection of plain serum; for example, a case in which the count fell from something like 300 to 30 when no salvarsan was used.

I am glad that a proper control method is beginning to obtain. The mere statement of clinical findings goes for practically nothing; it must become voluminous and cover many years to be valuable. If we stop to think of what we see as the result of salvarsan, of what we see as the result of mercury and iodine, to say nothing of the remarkable remissions without these, and also the results that have seemed to follow other kinds of therapy, it impresses us with the fact that the clinical basis of any reliable estimation of this whole proposition will have to extend over a good many years.

Dr. Bartels, closing: There is some danger in a lumbar puncture, but if done in a hospital under the most rigid aseptic technic it is practically eliminated. This method of treatment has been overworked and has been used for mercenary purposes. But if a patient has definite neurologic findings with a positive Wassermann, is having serious trouble, is getting worse and you have diligently tried the other various

antisyphilitic measures without benefit, then, I believe we should try the salvarsanized serum.

Dr. Engman's case proves the psychologic effect of the different treatments. When a man takes up a new treatment he naturally expects some help. All these patients, after one or two injections, said they felt improved, although in reality some were just the same.

SYMPOSIUM ON GASTRIC ULCER

General Society, February 6, 1915

DISCUSSION

Dr. H. W. Soper: Recently the dietetic treatment is in vogue and the patient, instead of being allowed to select his diet and find relief in alkalies, is given a definite dietary and made to understand that the cure of the ulcer is in the character of the food and not in any medical treatment. From a physiologic standpoint, atropin fulfils the indications for checking the secretions and inhibiting gastric contractions and motion. Hertz has laid down as a principle that the only cause of abdominal pain is tension and therefore we must regard the pain in ulcer as due to increased tension. The characteristic response of the ulcer patient to light, soft, bland food, illustrates this. In all probability, the heavy foods cause more work in the pyloric portion of the stomach, thereby increasing the tension and causing the pain.

A point brought out years ago by Boas, in differentiating between the neuroses and gastric ulcer, was the response of the ulcer patient to rest and milk diet and the failure of the neurotic to this treatment.

Three years ago the Roentgen ray was worth about 15 per cent. in the diagnosis of gastric and duodenal ulcer; two years ago it was worth about 25 per cent.; and one year ago it had a value of about 50 per cent.; today it has reached a value of about 75 per cent.

Dr. Olney A. Ambrose: The diagnosis of organic lesions of the stomach has almost narrowed down to a question of exclusion. If I were to take any one symptom complex, I would say, first, a carefully taken clinical history and then physical examination; next the laboratory aid and especially the finding of occult blood in the stool when all of the stool is examined, then the impregnation thread test—the swallowing of a silk thread and noting any contact by blood stains. I have seen this positive when occult blood did not show in the stool and the ulcer was demonstrated at operation. Another point of importance, especially in the surgical treatment, is in regard to the individual who may show all the clinical symptoms of ulcer and yet at operation it cannot be demonstrated. Such patients are suffering from erosions of the stomach which can only be determined microscopically.

I am in accord with Dr. Soper in reference to the Roentgen-ray examination. I first use the fluoroscope to visualize what is going on, and then, if necessary, a radiogram is made to study the conditions specifically. The difficulty in taking a single radiogram is that the movement of the stomach at any one time may be a normal one. You may have a so-called nitch or filling defect which, when studied fluoroscopically, will pass away. Looking at the plate you see only the fixed condition. But where you can correlate the whole thing and from the history down obtain positive findings there is not much question, providing you exclude everything else and never at any time attempt a snapshot diagnosis.

Dr. Francis Reder: The Roentgen rays and the laboratory tests will prove a great aid, but in my experience not greater than a clear-cut history and the symptom picture.

That part of the chapter of gastric ulcer which really belongs to the internist is a small part, but it belongs

to him. I have reference to the recent ulcer of the stomach, so often the cause of an alarming hemorrhage. If a surgeon should perform a gastrostomy in the hope of finding the bleeding point or points of a recent ulcer he would 95 times out of 100 meet with disappointment. Even after a most thorough search and seeing the blood accumulate in large quantities the chances of finding the bleeding orifices would most likely prove a failure. This has been convincingly demonstrated at autopsy when the erosive points were looked for but not found.

The saddle ulcer, a so-called contact ulcer, situated upon the lesser curvature of the stomach, is possibly the most frequent ulcer of the stomach, and its diagnosis can be made with reasonable accuracy. Nausea and vomiting are prominent symptoms and food causes a severe pain from its ingestion which often persists during the entire process of digestion.

Dr. William Engelbach: The medical treatment of gastric ulcers has been discredited on account of the improper selection of cases, due to indications that were set for treating ulcers medically, and the imperfect, insufficient medical treatment that cases so treated received.

It has been conceded that all ulcers with complications, such as perforative or obstructive lesions, repeated dangerous hemorrhages, malignant changes or perigastritis, are undoubtedly surgical. A considerable number of other gastric ulcers, however, are medical cases and should be given medical treatment. In this group are those that have been unsuccessfully operated on, i. e., after having had a gastroenterostomy with or without a pyloric occlusion, continue to have the symptoms and signs present previous to operation.

The medical treatment should be carried out under close observation, for the reason that its essential purpose is the continuous alkalinization of the stomach contents. Unless the patient is under direct observation night and day this treatment cannot be successfully employed. The failure of the gastric ulcer to heal is due to peptonization of the ulcer surface. The peptonization depends upon the presence of free hydrochloric acid. Neutralize or combine this acid and the pepsin is inactive. The medical treatment then should be very carefully given with the idea in view of completely neutralizing or combining the hydrochloric acid in the stomach contents continuously for the entire twenty-four hours of the day during the entire course of the treatment. The ordinary text-book treatment or the dietetic treatment spoken of to-night, only attempts but does not accomplish this, and in some cases neither will gastro-enterostomy. Results from such insufficient medical treatment have been so unsatisfactory that a large percentage of these simple, uncomplicated ulcers are finally referred to the surgeon. The majority of the cases, if they are given absolute rest in bed, proper diet, and a sufficient amount of alkali (varying in amount with the individual), to keep the stomach contents alkalinized continuously, will tend to heal and this healing will continue as long as these conditions are fulfilled.

It is now admitted that gastro-enterostomy is no longer considered a "drainage operation." It is also well known that some gastro-enterostomized stomachs do not empty themselves as rapidly as the normal stomach.

Dr. J. R. Caulk: A lesion which though infrequent is occasionally confused with gastric ulcer is incrustation of the upper ureter. I know of two cases. One was operated on after a thorough investigation by a gastro-enterologist and supposed to have had a chronic ulcer associated with pyloric spasm; no ulcer was found; the symptoms persisted, and she was found to have an incrustated upper ureter, which was relieved. The urinalysis may be entirely negative; this patient presented no symptoms pointing to the condition, but she had intense epigastric pain.

Dr. Louis Drechsler: I think very few practical things have been told us for the general practitioner. We cannot put all our patients into a hospital; they want something done and they want it done quickly. When they tell me they have taken medicine a long time, I do not diet them nor feed them by mouth. I give them bowel feeding and bismuth and acacia, which though an old method of treating gastric ulcer still is a good one. I had a patient living in a boarding house on whom I treated by this method. A surgeon had seen him and said he could not get well without an operation. The man said he did not have the money for an operation, so I told him I would use this method, and if he did not get well he must be operated on. At the end of two weeks he was eating sauerkraut and pigtails.

Dr. Albert E. Taussig: One factor in diet is the importance of fats, at least, of certain fats. Among the most important foods in the dietetic treatment of gastric or duodenal ulcer are cream, butter and olive oil.

Dr. A. R. Kieffer: I would like information about feeding gastric ulcer cases by the introduction of a tube through the esophagus and stomach into the duodenum, which tube is allowed to remain in situ quite a while. It seems to me this would fulfil most of the indications of gastro-enterostomy in cases of ulcer without surgery.

Dr. William T. Coughlin: One type not mentioned is the ulcer which is close to the cardia. As this end of the stomach does not contain much hydrochloric acid it is hard for me to see how hyperacidity has much to do with ulcer production at that point or the removal of the hyperacidity with its cure. Rest after gastro-enterostomy is a very large factor in promoting the cure of ulcer. A great many ulcers will get well under medical treatment, especially the acute variety, and many more of them get well under the diagnosis of ulcer because under the medical diagnosis you are never sure that you had an ulcer to deal with. It seems to be true that those who do not yield to medical treatment are benefited if not entirely cured by surgery.

Dr. R. Walter Mills: The tube spoken of by Dr. Kieffer was devised by Einhorn, of New York. Einhorn had been experimenting with the thread as an indication of ulcer of the stomach and duodenum through staining of the thread by blood and secretions of the ulcer. He also used a little gold bucket swallowed by the patient and thus recovered the gastric content in cases where he was unable to get it by other means. He had a physician, a colleague, who suffered from a very severe condition, with persistent vomiting, swallow this little bucket, using an aspirating tube instead of a thread to recover the duodenal contents. Then it occurred to him that he might feed the vomiting and starving patient through this tube. He was successful, and from this developed quite a complicated method of feeding, recovery of duodenal secretions with pylorus blocked through a little balloon distended by a second tube, in the effort to recover pure duodenal secretions. He worked out quite a treatment for ulcer by leaving a duodenal intubation outfit in place for a period of two or three weeks. Two years ago I spent two weeks with Einhorn following up cases he was treating by leaving the tube in the duodenum and feeding entirely through this tube. The method has been used rather widely, notably by Gerry Morgan, of Washington. It has a distinct therapeutic use, and while its novelty perhaps militates against its more universal employment, still it is a perfectly physiologic procedure and possibly will have a very considerable value in the future. Einhorn has even carried the method further and used the same tube with a secondary apparatus in the effort to divulge the pylorus, not with altogether admirable results or indications—that is, there was no

Roentgen ray to determine the exact condition of the pylorus. More recently, Adolph Schmidt of Halle, Germany, has used the tube to distend the intestines with oxygen in an effort to change the bacterial flora of the intestines. It has also been used by a New York man on infants with rather suggestive results.

BENTON COUNTY MEDICAL SOCIETY

The regular meeting of the Benton County Medical Society was called April 14, but on account of lack of a quorum only an impromptu meeting was held in Dr. Dillon's office, with Dr. E. H. Gist of Fristoe and Drs. E. F. Haynes, Marion Dillon and J. R. Smith of Warsaw present. Dr. J. A. Logan, president, was prevented from being present by an urgent call at the last minute. The doctors from Cole Camp and Lincoln were all absent, probably on account of the prevalence of sickness that this section has been afflicted with. I was nearly an hour late myself on account of an eighteen-mile trip to visit a patient that could not be neglected (and a very interesting case it has been, i. e., impaction of the bowel resulting in epileptiform convulsions, having some thirty convulsions before completely relieved, but at present writing doing finely).

Dr. Logan sent over two patients for clinical study (expecting to be present) and the secretary furnished one, making interesting clinical studies.

Dr. Kelly, our councilor, expected to be present, but was absent for the same reasons that prevented others from attending.

There has been a far greater amount of pneumonia in this section during the past two months than ever has been known so late in the season, but fortunately there have been no deaths to my knowledge. There has been not less than forty to fifty cases, many of them very severe, some being double pneumonia and several with typhoid tendencies.

J. R. SMITH, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, April 7, 1915. There were thirty-nine members present, with the president, Dr. J. F. Owens, in the chair. The minutes of the previous meeting were read and approved.

Following up our investigation of the first aid courses given at the Y. M. C. A. and Y. W. C. A., a communication was read from Major Patterson, chief supervisor of the National Red Cross Society, in which he supported this society in its contention that these courses were given by unscientific teachers. A reply from R. E. Squires, secretary of the Y. M. C. A., St. Joseph, was read, containing the following statement: "The only reason we had osteopaths teaching first aid was that when we started the courses they seemed to be the only available men we could get." Exception was taken to this statement and on motion of Dr. Woodson, seconded by Dr. Reynolds, the secretary was instructed to write a letter containing this statement and a return postal card to every member of the society requesting their prompt reply to the following question: "Have you ever or at any time been asked to give lectures on first aid at either the Y. M. C. A. or the Y. W. C. A. of St. Joseph, Mo.?"

The secretary was further instructed to assemble the letters from Major Patterson and the replies and present them to the proper committees at the meeting of the state society in May.

Considerable discussion was indulged in regarding the sheltering and taking care of undesirable roomers

at the Y. W. C. A., and the president was instructed to appoint a committee for the purpose of collecting and gathering evidence and detailed statements regarding such undesirable guests and to submit this evidence to our regular committee on Public Health and Legislation, who are instructed to lay this matter before the board of trustees of the Y. W. C. A. Committee appointed: Drs. Beard, Hartigan and Boteler.

The following applications for membership received their first reading: Dr. Samuel D. Packwood, sponsors: J. W. Ferguson and A. B. McGlothlan; Dr. H. F. Mundy, sponsors: J. W. Ferguson and A. B. McGlothlan.

The transfer card of Dr. J. L. Cox from the Daviess County Medical Society, was presented for affiliation and the doctor was duly elected a member of the Buchanan County Medical Society. The chairman appointed a committee of the following members to draw up suitable resolutions regarding the death of Dr. C. J. Siemens and present them at our next regular meeting: Drs. A. L. Gray, H. S. Forgraves and W. L. Kenney.

Attention was called to the behavior of Dr. J. J. Bazan, who was suspected of abusing his privilege as a registered physician to commercialize the sale of narcotics. Dr. Beard reported that the doctor was under arrest at the police station, so the matter was referred to the proper committee of our society for their attention.

Dr. Kenney, member of the Finance Committee, reported that they had succeeded in raising the necessary amount of funds for the entertainment of the state association in May.

Dr. J. I. Byrne read a paper on "Tuberculosis of the Kidney," which was discussed by Drs. Bansbach, McGlothlan, Wallace and Elam; Dr. Byrne closing.

The Buchanan County Medical Society met in regular session in their rooms Wednesday evening, April 21, with twenty-eight members present. Vice-president Dr. W. J. McGill, presided. The minutes of the previous meeting were read and approved.

Applications of Dr. S. D. Packwood and Dr. H. F. Mundy, having been regularly endorsed by the censors, received their second reading and were voted on and duly elected members of our society.

The committee having in charge investigations of the Y. M. C. A. and Y. W. C. A. were granted until next meeting for their report.

The committee to draw resolutions on the death of Dr. Claus J. Siemens handed in their report, which was duly read and a copy ordered to be sent to the family and also spread on the minutes of the society. The resolutions follow:

Resolved, That we extend our heartfelt sympathy to the members of the family of Dr. Claus J. Siemens in their sad bereavement.

Dr. Siemens was a physician of rare judgment, practical and honorable, loved his work, and his obligation to his clientage was his law. His work extended over a period of more than half a century and he was able to observe and appreciate the many great achievements of modern medicine.

Dr. J. G. Sampson reported a case of hydatid mole with exhibition of specimen. Discussion by Drs. Jacob Geiger and Caryl Potter.

Two interesting papers were read, one by Dr. Jacob Geiger, on "Surgical Considerations." This was discussed by Drs. Kenney, Willman and Leonard. Another by Dr. F. X. Hartigan, on "General Anesthesia," which was discussed by Drs. Jacob Geiger, Gummig, Ferguson, Lynch, Beard, Woodson, A. L. Gray, Caryl Potter, Leonard, Kenney, Chas. Geiger and W. J. McGill, Dr. Hartigan closing.

Meeting of May 5

The regular meeting of the Buchanan County Medical Society was held at their rooms at St. Joseph, Wednesday evening, May 5, Dr. A. L. Gray in the chair. There were forty-two members present. The minutes of the previous meeting were read and approved.

The proposed amendement to the constitution and by-laws of the state association concerning the control of election of members of the county society by the state association was read and a motion was made and carried that our delegates to the state convention be instructed to oppose this amendement.

On motion of Dr. J. B. Reynolds, seconded by Dr. Charles Geiger, a motion was made and carried that our delegates be instructed to support a resolution in the state association favoring a general reciprocity by the State Board of Health, so that a doctor registered in one state may practice in another.

The committee having in charge the arrangements of clubrooms requested further time, and Dr. Bansbach, the chairman, informed the society that he had in view a consolidation with the druggist and dental associations of our city and would report progress in a short time.

A paper by Dr. A. B. McGlothlan, entitled "A Few Practical Points on Diphtheria," was discussed by the following members: Drs. P. I. Leonard, J. T. Stamey, C. Greenburg, Caryl Potter, W. J. McGill, C. A. Good, F. G. Beard, R. Willman, J. F. Owens and O. A. Schmid.

W. F. GOETZE, M.D., Secretary.

CALLAWAY COUNTY MEDICAL SOCIETY

At the April meeting of the Callaway County Medical Society the committee appointed to draft resolutions on the death of Dr. Z. T. Knight, reported as follows:

Dr. Z. T. Knight, 34 years old, a member of the medical staff of the State Hospital at Fulton, died at 7:45 p. m., March 21, 1915, following an attack of acute appendicitis.

Dr. Knight was born at Monticello, Mo., the only child of Dr. and Mrs. George Knight of that city. He was educated at Christian University, Canton, Mo., Drake University, Des Moines, Ia., and obtained his medical degree from the College of Physicians and Surgeons at Keokuk, Iowa, in 1907. After finishing his medical education he located at Monticello, the place of his birth, for the practice of his profession. He was elected a member of the staff of the State Hospital at Fulton in June, 1913, and proved himself a man of worth in every particular.

Dr. Knight was not only a splendid physician with a bright future before him, but was a genial, lovable gentleman and one of the most popular officials State Hospital No. 1 has ever had. He was married five years ago to Miss Mabel Ligon of Canton, Mo., who survives him. Dr. Knight was a member of the Masonic and Woodman lodges and the former had charge of his funeral services at Canton, where he was laid to rest in the family burial grounds on Tuesday, March 23, 1915. The death of Dr. Knight is a distinct loss not only to our profession but to the people of the community where he lived.

In memory of our departed brother, we offer the following resolutions:

Whereas, The Almighty Ruler of the Universe in his infinite wisdom has seen fit to remove from our midst our friend and medical associate, Dr. Z. T. Knight, be it

Resolved, That in the death of Dr. Knight the Callaway County Medical Society has lost a valuable and useful member who will be very much missed from our meetings. And be it further

Resolved, That the Callaway County Medical Society extend expressions of sympathy to the bereaved ones and that a copy of these resolutions be sent to the family and to the State Medical Journal for publication.

(Signed)

MARTIN YATES, M.D.,

HERMAN S. MAJOR, M.D.,

The Committee.

On motion the report was unanimously adopted.

CASS COUNTY MEDICAL SOCIETY

The regular meeting of the Cass County Medical Society was held in Harrisonville April 8. The following members and visitors were present: Drs. H. S. Crawford, A. R. Elder, S. W. Fair, M. P. Overholser, R. D. Ramey, J. S. Triplett and F. W. Rathbone of Kansas City and C. B. Wagner of Covington, Ky.

Dr. G. B. Wagner read a paper on "Appendicitis," which was very interesting to the society from a clinical history of his own case. He had three attacks and was operated on. All members present took an active part in a free and lengthy discussion of the paper and many excellent ideas were brought out.

The secretary read several reports and communications, and reported the names of five members who were delinquent for 1915. He was instructed to write them, urging them to remit their dues and to assure them that the society is anxious to retain them as members.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in Liberty, Monday evening, April 26, at Dr. Matthews' office.

This was by far the best meeting of the year. Members who miss these meetings certainly are unfortunate and it would seem that men of the medical profession would take a lively interest in the very things of vital importance to them. Nevertheless, social requirements and the pursuit of the almighty dollar, combined with a sprinkle of real laziness, will get in their work.

Dr. E. H. Miller led the program with a paper, "Why So Much Deafness?" The doctor answered this, saying that neglect of the early warning symptoms, and cessation of treatment when earache and discharge ceased, together with lack of thorough methods of treatment, were often responsible. He condemned the too frequent use of the eustachian catheter and too active inflation of the tubes. He advocated clearing adhesions about the eustachian orifice, curettage to the depth of one-tenth of an inch, and believed the orifice to be the site of a majority of infections causing deafness. The paper was freely discussed by Drs. Hall, Keith, Peterson, Rothwell and Goodson.

Dr. E. P. Hall, of Kansas City, discussed "Discharging Ears," with special reference to mastoid disease. He discussed the radical operation at length, removal of all diseased bone, including the ossicles of the middle ear. Then he showed results with two patients which he brought from Kansas City. Both heard whispers at thirty feet better than some of us who had hammer, anvil and stirrup. Dr. Hall uses the eustachian catheter for diagnosis only, and that seldom. He considers otitis media an infection similar to that of arthritis deformans when the condition of the middle ear is hyperplastic.

It is to be hoped that more of the members of this society will wake up and absorb as well as eliminate. Next meeting will be held at Snapp Hotel, Excelsior Springs, the last Monday evening in May, with a program worth while.

J. J. GAINES, M.D., Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade - Maries - Osage County Medical Society met at Linn, April 29, 1915. The meeting was called to order by the secretary, Dr. J. D. Seba. On motion of Dr. J. O. Cooper, Dr. J. J. Jett was elected to preside as chairman in the absence of our president, Dr. Fred Aufderheide. The minutes of the Argyle meeting were read and approved.

The following were present and took part in the proceedings: Drs. C. T. Leach, W. C. Miller, J. O. Cooper, I. M. Owens, H. M. LeFever, J. J. Jett, H. G. Grove, John S. Enloe and brother, Dr. Enloe, of Jefferson City, Dr. L. E. Souders and Dr. John D. Seba.

The first paper read was by Dr. John D. Seba entitled "Etiologic Factors in the Vomiting of Pregnancy, and Measures for its Relief." The consensus of opinion on this paper was that vomiting in pregnancy was due to an infection of the pregnant uterus by the colon bacillus which soon was a mixed infection and the remedies per orem were contraindicated and should be withheld. The remedial agents recommended were vaginal douches of a mild solution of permanganate of potassium, followed with warm water douches, this to be followed by colonic irrigation. Dr. Seba claimed that most cases under observation got well by this treatment alone, but if responses were not prompt it should be complemented by the hypodermic injection of vaccines. This paper was discussed by the doctors present, and while none of them had depended in these cases on simple local attention of the parts alone many recalled that as soon as they had installed local treatment their cases began to improve and this improvement they thought was due to the local treatment.

Dr. Enloe delivered a short talk on his experience in social diseases. During the discussion of this subject it developed that they occur more plentifully than is generally recognized.

Dr. I. M. Owens delivered his lecture on "Empyema." This subject was thoroughly discussed.

Dr. W. C. Miller delivered a lecture on his personal experience as county coroner. He explained the law and what was expected of a county coroner. He said the main thing to find out is how the person came to his death and whether there was any crime connected therewith.

JOHN D. SEBA, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met in Electric Hall, Glasgow, Mo., May 7, 1915, with the President, Dr. J. W. Hawkins, in the chair.

The following members were present: Drs. Temple, Pritchett, J. W. and W. R. Hawkins, C. W. Watts; visitors, Dr. C. B. Lawrence of Clifton Hill; Dr. W. J. Sharp of Slater, Saline County, and Dr. G. B. Gallemore of Texas.

No clinics or papers were presented, but Drs. Sharp and Gillmore gave us interesting talks. Dr. Lawrence is to read a paper on pneumonia at the June meeting. There were no members present from Armstrong or New Franklin.

By a unanimous vote the society will hold the next meeting at Glasgow on Friday, June 4, 1915.

Dr. V. Q. Bonham of Fayette was elected to represent the Howard County Medical Society in the House of Delegates at the annual meeting of the State Association in St. Joseph.

On motion the society adjourned at 3:30 p. m.

C. W. WATTS, M.D., Secretary.

MONTGOMERY COUNTY MEDICAL SOCIETY

The Montgomery County Medical Society met at Montgomery City, Tuesday, May 4, 1915. Dr. David Nowlin acting as chairman in the absence of Dr. Herman W. Ford.

Those members present were Drs. David Nowlin, D. O. Hudson, E. W. Tinsley and G. E. Muns of Montgomery City.

Visitors present were Drs. Walter Baumgarten of St. Louis; E. E. Evans of New Florence; Fowler of Bellflower; Williams of Jonesburg; T. H. Devin of Wellsville, and W. E. Muns of Montgomery City.

The following applicants were elected to membership in the society: Drs. Devin, Williams, Fowler, Evans and W. E. Muns.

The society had the rare opportunity of hearing an exposition of the "Diagnosis of Sciatica," by Dr. Baumgarten. He dwelt at length on vertebral osteoarthritis and partial or complete separation of bones at the sacro-iliac joint as etiologic factors in cases of so-called sciatica. Several good Roentgen-ray pictures of these conditions were shown and a number of cases were reported. The treatment of these conditions was also taken up by Dr. Baumgarten and some practical and helpful hints were given.

The subject was discussed by Drs. Nowlin, Muns, Fowler, Evans and Williams.

The society expressed a unanimous vote of thanks to Dr. Baumgarten for his very able and instructive talk.

It was determined that the next meeting of the society should be held as an out-of-door picnic at Mineola, the second Tuesday in June, when a report of the State Association meeting at St. Joseph will be given by the delegate, Dr. Herman W. Ford of Middletown.

G. E. MUNS, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The Pike County Medical Society held its regular meeting at Clarksville, Monday, May 3, in the office of Dr. J. E. Bankhead. Those present were Drs. Lewellen, Dreyfus, of Louisiana; Keeling, of Elsberry; J. E. Bankhead and E. M. Bartlett, of Clarksville.

An interesting and well-written paper on "Pituitary" was read by Dr. Lewellen and discussed by the society.

F. V. KEELING, M.D., Secretary.

REYNOLDS COUNTY MEDICAL SOCIETY

The Reynolds County Medical Society met in regular session at Centerville, Friday, April 16, 1915, with the following members present: Drs. C. M. Fitzpatrick, Lesterville; A. F. Bugg, Corridon; T. T. O'Dell, Ellington; C. C. Simmons, Bunker and T. H. Shy, Centerville.

Dr. A. F. Bugg read a very interesting paper entitled "Suggestions of Reform in Therapeutics," with a plea for a more detailed study of the physiologic action of official remedies. The paper was well written and well read. The doctor condemned the too frequent use of pharmaceutical preparations as they come to us from the various manufacturers and impressed the necessity of physicians doing more of their own compounding, thereby making a closer study of drugs and their physiologic action and not to get into the too frequent habit of prescribing the many pharmaceutical compounds according to the label on the bottle, *e. g.* "Anti Malaria," "Carmine," etc.

Quite a number of cases of unusual interest were brought before the society which furnished an interesting field for discussion.

Dr. T. T. O'Dell reported a very interesting case of ectopic gestation of only short duration but accom-

panied with much internal hemorrhage. Early operation was instituted and perfect relief given.

Quite a number of other cases were presented to the society by different members.

The following officers were elected for the ensuing year: president, A. F. Bugg; vice-president, C. C. Simmons; secretary-treasurer, T. H. Shy; delegate to state association, T. W. Chilton; alternate, J. H. Moffit.

The members of our society though few in number and situated from eight to twenty-five miles apart, prize their meetings very highly and since its organization in 1911 we have never failed to have a quorum present.

After a few good words for the good of the society, we adjourned to meet again at Centerville, June 18, 1915.

THOMAS H. SHY, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

PAPAVERINE.—An alkaloid obtained from opium, but not chemically related to morphin. Its use has been proposed in various atonic conditions of the smooth muscles, particularly in gastric and intestinal spasms, for the diagnosis of pyloric spasm, biliary colic and in bronchial spasm. It is a feeble analgesic and local anesthetic. Neither tolerance nor habituation from its use has been reported. It is used in the form of its salts (see below).

PAPAVERINE HYDROCHLORIDE.—This contains not less than 88 per cent. of papaverine. Papaverine hydrochloride is odorless, bitter and permanent in the air. It is sparingly soluble in water; soluble in alcohol; very soluble in chloroform; insoluble in ether. It is marketed as:

PAPAVERINE HYDROCHLORIDE, MERCK.—Merck and Co., New York.

PAPAVERINE HYDROCHLORIDE, ROCHE.—Hoffmann-LaRoche Chemical Works, New York.

PAPAVERINE HYDROCHLORIDE, ROCHE, TABLETS.—Each tablet contains papaverine hydrochloride 0.04 Gm. Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, May 29, 1915, p. 1849).

PAPAVERINE SULPHATE.—This contains not less than 85 per cent. of papaverine. Papaverine sulphate is odorless, bitter and slightly hygroscopic. It is soluble in water and in alcohol; very soluble in chloroform; insoluble in ether. It is marketed as:

PAPAVERINE SULPHATE, ROCHE, AMPULES.—Each ampule contains 0.04 Gm. papaverine sulphate. Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, May 29, 1915, p. 1849).

PROPAGANDA FOR REFORM

SECRETOTEN.—To call attention to the unfounded and extravagant claims made for internal secretion products, the Council on Pharmacy and Chemistry reports on Secretogen Elixir and Secretogen Tablets, sold by the G. W. Carnrick Co. The report

discusses the insufficiency of the evidence for the administration of secretin—claimed to be present in these preparations. The Council holds that a rational basis for the therapeutic value of Secretogen is lacking because there is no evidence that the absence of secretin is a cause of gastro-intestinal diseases, and because there is no evidence that secretin in any form is physiologically active when administered by the mouth (*Jour. A. M. A.*, May 1, 1915, p. 1518).

THE OXYPATHOR.—An order forbidding the use of the United States mails has been issued against the Oxypathor Company, Buffalo, N. Y., and its branches at Columbus, Ohio, and Wilmington, Del. The Oxypathor consists essentially of a piece of nickel-plated tubing filled with inert material, sealed and having attached to each end a flexible cord with a garter-like attachment at the free ends. This outfit was sold with the absurd claim that it caused the absorption of large quantities of the oxygen through the skin of the user (*Jour. A. M. A.*, May 8, 1915, p. 1600).

BURNHAM'S SOLUBLE IODINE.—The Council on Pharmacy and Chemistry reports that Burnham's Soluble Iodine is a semi-secret preparation exploited by extravagant and dangerous therapeutic claims and therefore ineligible for New and Nonofficial Remedies. The A. M. A. Chemical Laboratory has shown that the official tincture of iodine, diluted one-half, would be essentially equivalent to the Burnham preparation. While the promoters claim that the administration of free iodine is therapeutically superior to the administration of iodides, this is a fallacy. The small dose of Burnham's Soluble Iodine recommended by the manufacturer accounts for the claimed freedom from symptoms of iodism. The Council considers as particularly reprehensible the recommendation to inject the preparation intravenously and the proposed indiscriminate use in tuberculosis (*Jour. A. M. A.*, May 15, 1915, p. 1673).

VENARSEN.—The Council on Pharmacy and Chemistry reports that while formerly Venarsen was marketed with indefinite statements as to its identity and in a way to suggest analogy with salvarsan, it is now admitted to be essentially a sodium cacodylate solution, each ampule containing about 9 grains sodium cacodylate, 1/40 grain mercuric iodid and 3/4 grain sodium iodid. The Council finds the therapeutic claims made for Venarsen to be exaggerated and unwarranted and holds the administration of sodium cacodylate and mercuric iodid in fixed proportions intravenously to be an irrational procedure (*Jour. A. M. A.*, May 22, 1915, p. 1780).

NOMENCLATURE OF DRUGS.—The first requisite of successful prescribing is to know what one is giving. Non-descriptive or therapeutically suggestive names for drugs lead to uncritical prescribing, as has been shown by the random use of heroin and the untoward results from Atoxyl. Often proprietary names make it possible to charge an exorbitant price for a well-known drug, as when hexamethylenamin is sold as Uritone, Urotropine or Cystogen and theobromin sodium salicylate as Diuretin. Since the action of drugs depends on their chemical nature, the name should at least suggest the chemical composition of the drug or its source and relationship. The lack of scientific nomenclature of drugs is discreditable and hampering to modern medicine. Physicians should eschew the fanciful or therapeutically suggestive names provided by manufacturers and give preference whenever possible to non-proprietary descriptive names for drugs (*Jour. A. M. A.*, May 29, 1915, p. 1853).

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E. J. GOODWIN, M.D.,
EDITOR

PUBLICATION COMMITTEE { W. H. BREUER, M.D., Chairman
S. P. CHILD, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

THE ECONOMICS OF THE PRACTICE OF MEDICINE *

PRESIDENT'S ADDRESS

HENRY C. SHUTTEE, M.D.
WEST PLAINS, MO.

The By-Laws of our Association make it the duty of the President to deliver an annual address; otherwise, this part of the program would gladly be omitted.

To be the president of the organized medical profession of the great state of Missouri is an honor I never expected to obtain, an honor I am sure I did not deserve. It was conferred on me as the representative of the country doctor, and more particularly of that large body of hard working, intelligent and progressive physicians residing on the southern slope of the beautiful Ozarks, who have in a medical way been more isolated than the profession in any other part of the state. In their name I desire to return to you my heartfelt thanks for the honor conferred upon us and to assure you that it is fully appreciated.

Annual addresses by your presidents have usually dealt with subjects of at least quasi-public interest; but the inauguration of Public Health Sunday by our Association, and the many able addresses delivered in the churches of the city yesterday, make it unnecessary for me to touch upon any such themes at this time. I desire only to say that the success of our meetings yesterday should stimulate us to greater effort in attempts to educate the people along the lines of public health, sanitation and preventive medicine.

Let us then consider briefly a few matters of more special interest and importance to us as individual physicians.

The profession of this state is to be congratulated because of the great and ever greater inter-

est of our membership as a whole in the work of the county societies, and the greatly increased feeling of fraternity and neighborly interest flowing out of frequent meetings and fellowship. Besides making us better and more efficient doctors, our frequent meetings for scientific purposes also brings us together socially, and thus we become better acquainted, and the asperities of life are softened by more intimate contact. A certain amount of friction is inevitable in all human relationship, and it is not expected that all doctors will be able at all times to get along in their several communities without occasionally seeing in each other faults and shortcomings that tend to destroy intimate friendship; but we should all be broad enough and liberal enough to overlook slight and even great faults in each other, and to enable us to emulate the good qualities of our brother rather than criticize his bad ones. As Elbert Hubbard truthfully said: "There is so much bad in the best of us, and so much good in the worst of us, that it does not behoove any of us to heave big words at the rest of us." Therefore, we should not allow ourselves to labor under the delusion that we ourselves are next to perfect, and that all the blame of whatever friction may from time to time arise between us lies alone with our competitor; but rather let us see if, under the test of the Great Physician, "Let him who is without sin among you cast the first stone," we ourselves are in such immaculate condition as to qualify us to criticize the actions and conduct of our rivals. If we would all apply this test I am sure the air would be greatly clarified and our criticism would oftener be directed against ourselves.

I am glad to note that in most places professional jealousies and open ruptures between doctors are becoming much less frequent than formerly, and as a whole physicians now work together harmoniously in the spirit of helpfulness. Such disagreement as took place in my town during my student days, when two of our best and most prominent doctors came very near to blows over the question whether, in a case of dysentery in which they met in consultation, the

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

patient should be given castor oil or salts, could not occur anywhere among intelligent physicians today.

I am glad also to note that the use by doctors of proprietary preparations of unknown, uncertain or fraudulent composition is gradually becoming less prevalent, and in my judgment the only remedy for this still too common evil is the education of the individual doctor, and in arousing him to the absolute necessity of discarding all such preparations in his work before he will be in a position to consistently advise the public to abstain from taking "patent medicines." For wherein lies the difference between the doctor who uses these abominable concoctions, with their claims to the same miraculous powers of healing as are set forth in the most flamboyant patent medicine advertisement, and the poor dupe who eagerly swallows the latest advertised panacea for all the ills that flesh is heir to? Is the doctor not to be even more censured than one who knows no better? As long as we think so little of our ability to formulate a prescription suited to the individual patient before us that we prefer to let some manufacturer in a distant city perform that duty for us, will we continue to use these mixtures, to the great detriment of both the patient and ourselves. For unless we exercise our faculty of judgment in the remedies we give, whatever therapeutic knowledge we possess will gradually fade away and finally become of no use. That great logician, John Stuart Mill, said: "The human faculties of perception, judgment, discriminative feeling, mental activity, and even moral preference, are exercised only in making a choice. He who does anything because it is the custom makes no choice. He gains no practice either in discerning or desiring what is best. The mental and moral, like the muscular powers, are improved only by being used. The faculties are called into no exercise by doing a thing merely because others do it, no more than by believing a thing only because others believe it. . . . He who lets the world, or his own portion of it, choose his plan of life for him has no need of any other faculty than the ape-like one of imitation. He who chooses his plan for himself employs all his faculties."

One is almost persuaded that the use of proprietary medicines of unknown, doubtful or uncertain composition was prevalent among physicians in Mill's day, else how could he so accurately describe the mental make-up of doctors who still use them? Do not the words "ape-like imitation" accurately fit the doctor who gives a preparation about whose composition he is not sure, merely because some manufacturer or eminent professor has lauded it? And what about the eminent professor? Truly, some of these eminent professors should go to school once more and learn something about *materia medica* and the physiologic action of drugs; then they would be in a position to prescribe more intelli-

gently for their patients and might even be able to impart some useful and practical information to their students. It may be well enough to censure medical journals for advertising the class of proprietaries mentioned, but the only solution of the proprietary evil is in the exercise of discrimination and judgment in the selection of remedies whose physiologic actions are known and suited to the individual patient by the individual doctor.

I would like to say a few words about the business side of our work. In no other profession is the expense in proportion to income so great as in ours, and in recent years the expense side of the ledger has grown far more rapidly than the income side, due to the increased cost of living as well as the increase of absolutely necessary outlay in our work, without a corresponding increase in the amount of our fees. Since this is undeniably true, that the expense of a doctor in proportion to his income is greater than in any other profession, it follows as a natural sequence that he should and must be a fairly good business man in order to achieve the greatest possible success; for unless his income is ample he cannot supply himself with the necessary equipment, literature and other means of improvement absolutely necessary in his work, much less support those who are dependent on him. While it is true that the primary object of medicine as a profession is not the accumulation of wealth, it has been well said that the first duty of a physician is to make a living for himself and family and keep out of the poorhouse. The number of doctors who have amassed fortunes by the practice of their profession is very small. More acquire a competence, and this is the duty of every man, professional or nonprofessional, if it is within his power. The altruistic idea is stronger in medicine than in any other profession or calling, except possibly that of the ministry. Personally, I believe this side of our professional work has been so strongly impressed upon the public, both by physicians and laymen, that a not inconsiderable part of the people has been led to expect doctors to pay little attention to the financial side of their profession, some people forgetting that a physician must pay his rent or taxes; that he must be fed and clothed; that he must be supplied with instruments and books; and that he must support his family and educate his children. Fees alone will do that, and neither the thanks of grateful patients nor the abuse of ungrateful ones can be converted into assets acceptable to his grocer or banker.

Such men as Dr. McClure are no doubt plentiful in Missouri, as in all the other states, and under similar surroundings and conditions would answer the novelist's purpose equally well; but it must be remembered that McClure was a bachelor and his sacrifice of all pecuniary interest in his work affected no one but himself. When he died, no widow or orphans were left

on the cold charity of the world, and he had a right to immolate himself on the altar of altruism if he chose to do so; but we who have loved ones depending upon us have no such right and our first obligation and duty is to them.

Medicine being a calling rather than a trade, the doctor can not adopt the methods of the tradesman or business man without degrading his profession; but this should not and does not excuse or justify the amazing lack of ordinary business methods of which many in our ranks are guilty.

I am sure that on none of our tombstones will the epitaph of Sylvius be engraved. His was this: "Here lies Sylvius, who never did anything unless he was paid for it. If he could do it, he would charge you for reading these lines." None of us would want that said of us, and of none of us would it be true, for we all do a great deal of charity work; but it should be real charity and not mere encouragement of deadbeatism. As between the epitaph of Sylvius and one reciting the fact that I had paid so little attention to the business side of my profession that when I died my family was left without means of support and might become charges on the community, I would prefer the former. It is no more than right that one who has devoted the active, productive period of his manhood to the useful service of humanity should be sufficiently rewarded for his labors so that, when he approaches that period of life when the mental and physical powers begin to fail, in addition to having been able to raise and educate his children, he may have accumulated enough to enable himself and the faithful companion of his life to live in comfortable retirement during their declining years. To me there is no sadder picture than an aged doctor, who has worked hard and faithfully during his active days, reduced in his old age to poverty; but this is not infrequently seen all over our country.

The busy doctor, concentrating all his attention and energy on the scientific aspects of his profession, has no time to make money. This explains, in some degree, the notorious fact that most doctors are very poor business men. They have not the time necessary to study ways of making money, like the banker or business man who often acquire fortunes, and usually their only source of income, at least for a good many years after they begin practice, is the fee due them for labor faithfully performed, often at a severe tax to their health and strength. It is well known to us that the death rate among physicians is greater than in any other profession, the expectancy of life being five years less than that of lawyers and ten years less than that of ministers. Therefore, our working days are on the average considerably fewer than in any other profession, and this is an added reason why we should adopt business methods in our work. It is well known to all of us that the bills that are

allowed to run a long time for the reason that we dislike to push some one whom we regard as honest but unfortunate, or for some other reason, are the very hardest of all to collect. Many at first grateful patrons allow their gratitude to evaporate very quickly, soon forget the debt they owe the doctor, and often become his worst enemies. Insistence on prompt payment for services rendered enables the doctor to meet promptly his own financial obligations, and I will venture the statement that the physician who charges a good fee for his work, collects it within a reasonable time and promptly pays his own debts, other things being equal, stands much higher in his community and has much more influence than one who does just the opposite.

A good many people labor under the false belief that all doctors make a great deal of money, and that the only reason they do not all get rich is because they spend their money in high living or in other ways instead of saving it. We who are on the inside and know better should at every opportunity try to dispel this false impression, and explain to such persons that a doctor cannot in the very nature of his work make very much money; for unless he has a very rich clientele, so that when he gets more work than he can do, he can raise his fees and thereby cut out his poorer patrons, his ability to earn money is limited to just what one man can do with ordinary fees. The business man, when his business grows to proportions beyond his powers to attend to it himself, hires clerks and managers, and perhaps establishes branches, and can thus very effectively spread his efforts and influence over a very large business at great profit to himself.

Profitable fees for the doctor must include interest on the cost of his education, equipment, cost of means of transportation, besides the expense of running his office, surgical and medical supplies, etc., for all of these are at work whenever he renders any professional service, and most of them are constantly operating when he has nothing to do. Therefore, unless a doctor collects his fees with reasonable promptness, he cannot give his patrons his best services, nor discharge his duty either to his family or to society.

The practice of medicine and money making being, as we have seen, in large measure incompatible, because the busy doctor has neither the time nor the knowledge necessary to the success of the financier or the speculator, it is all the more necessary that he adopt the slogan of the day—safety first—in all his investments, and steer clear of the many leeches and parasites who invade his office with their glittering bait and get-rich-quick schemes, and too often succeed in separating him from his hard earned money.

TRUTH AND TUBERCULOSIS*

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I have not the slightest doubt that I shall be perfectly honest in what I shall have to say to you to-night, and it is my intention also to be as modest as I am honest. That ought not to be difficult for any one who has to do with tuberculosis, for I know of nothing so well calculated to annihilate both egotism and egoism as this particular affection. Nevertheless, I run some chance of failing in modesty by making my address personal, as it must be if I am to succeed in conveying to you what I conceive to be my mission, and that is an appeal for the recognition of the value of high altitudes in the treatment of tuberculosis.

In my own case I may say that several distinguished medical men of New York City were consulted when I developed tuberculosis and it is very interesting indeed that their opinion twenty years ago was unanimous that I should go to the Rocky Mountains, with the exception of one, who insisted that he could cure me with cold douches up and down my spine right in New York City. I rather congratulate myself, however, that I did not try the douches. As already mentioned, the judgment that I should go west was practically unanimous at that time, and I cannot help but wonder what wonderful discovery has been made in tuberculosis in the past twenty years which justifies a complete change of medical opinion as to the disposition that should be made of a consumptive. Certainly I know of nothing of sufficient importance in the treatment of tuberculosis which should alter that opinion.

When I went west, however, it was a rather poor place for a consumptive to go to. Then there were no institutions where systematic discipline and regulation of life could be effectively applied, and after all, this matter of discipline is about all we have added in the past two thousand years to the treatment of tuberculosis. Twenty years ago my observation was that consumptives did about everything in the west except what they ought to do, and yet I did see many people recover. Some consumptives get well anywhere under any and all conditions; this we all know, but I saw much more than a few recover in Colorado under very lax conditions of life. It occurred to me as I lay on my back nearly two years, most of the time trying to get rid of fever, that it was a wicked waste of a great opportunity that there were no places in the west where the tuberculous could receive good care and attention, if nothing more, and at that time

I had born in me the ambition to provide such a place. This has really been my life work, and with the exception of the government sanatorium at Fort Bayard, I myself established the first institution for the treatment of tuberculosis west of the Mississippi, and mine was among the first five or six in the United States. In my own state, New Mexico, I am truly a pioneer in this work, and during my time I have lived to see a great many institutions established in my own state for the treatment of tuberculosis.

The fundamental idea that I had in my heart was to provide advantages for consumptives that I did not have myself when I went west; for in my early days it was largely a matter of gamble most of the night, loaf around the streets and stock exchange, ride horseback and drink whisky, which seemed to be the accepted western method of treating tuberculosis; and as I have said before, in spite of all these things, I saw a great many people recover. I went into the Army as soon as I was able to work and was present at the birth of Fort Bayard as an institution for the treatment of tuberculous soldiers. At this point it may be interesting to know why Fort Bayard is located where it is. At that time the Surgeon-General, Dr. Sternberg, an eminent bacteriologist, whose duty it became to select a site for the government institution, made a trip west to perform this function. Then the whole matter of climate in tuberculosis rested on empirical grounds and there was no great opportunity to utilize scientific knowledge in the selection of a site for the government institution. In the Army they keep very careful records of both morbidity and mortality, as you all know, and utilizing these records at Fort Bayard and comparing them with those of other western army posts it was easy to demonstrate that Fort Bayard was about the most healthful place in the United States—that the sick reports for thirty years has been extremely low. Dr. Sternberg then judged that the healthiest place for healthy people would be the best place for sick people. Not very scientific, perhaps, but I am sure that time has justified his choice.

At Fort Bayard I had the advantage of three hundred and sixty post mortems. You will remember that this was about the time of the Spanish War, when our tuberculous soldiers from Cuba and the Philippines, in addition to tuberculosis, in many instances had severe malaria and other tropical affections. Most of our early cases were in very bad condition on arrival and the mortality was high. The post-mortem experience, however, was valuable to me, especially in that it gave me a splendid chance to get a true idea of the relation between physical diagnosis in life and actualities as

* Read before the St. Louis Medical Society, Nov. 14, 1914.

demonstrated on the post-mortem table. However, as a doctor I could not stand the army discipline indefinitely, and I could not see that I was any nearer the establishment of an institution which would incorporate my own ideas as to the way in which tuberculous invalids should be cared for. So I left the Army and at Silver City succeeded by much effort in interesting a Sister of Mercy, known to us as Mother Paul, and she finally offered me their local hospital to convert into a sanatorium with the proviso that I was to have no salary until I had demonstrated the success of the institution. She turned the hospital over to me on Sept. 1, 1900. I was very poor; had quite a large family and was none too strong myself, and I wondered how I was going to start this institution and make good without having friends among eastern men. So I borrowed money, a little from a barber, some from a druggist, and got enough together to make the trip east, though it was necessary to live on bread and milk all the way across and back again. This was no great hardship, however, as it always had been my favorite food. I went first to Philadelphia and there met a very grand old man, Dr. Jacob Solis-Cohen, who I am glad to say at 77 is still living and working. I told him of my ideas and needs, and in spite of my somewhat shabby clothes, as a manifestation of his splendid professionalism, as well as good heart, he took me to the Union League Club for lunch. He listened sympathetically to all I had to say, the burden of which was that I must have patients if I were to succeed. Through him I met other distinguished Philadelphia men, notably Dr. James Wilson and Drs. Hare, Stengel and Tyson and even that great man whose book we have all studied, namely, Dr. Horatio Wood. Dr. Cohen and some others promised to help me. I then went to Detroit, my old home, and saw Dr. Ernest L. Shurly, an old friend and teacher, and I told him what I wanted. He said, "I am going to send you patients for a year, and if you do not make good on those patients in that time, I will never send you another." It is a great pleasure indeed to me to be able to say that he continued to send me patients until his death two years ago and in all sent me nearly one hundred.

From the beginning, as opportunity presented, I had carefully studied the Great West, wondering where I would locate my imagined institution when I left the Army. I turned down Phoenix because it was without altitude and had a summer climate about equal to that of the Panama Canal; the same applied to Tucson. El Paso I objected to because the summers were too warm and the altitude not sufficiently great. Colorado Springs did not

suit me because the winters were too cold. Briefly, the choice narrowed itself to two or three places in my attempt to find a place with an altitude of at least 6,000 feet, with moderate winters and cool summers—Prescott, Arizona, Las Vegas and Santa Fe in New Mexico, and lastly, Silver City; and to this day I consider that these four towns offer an approximation of the ideal in the choice of a climate for tuberculosis. As I happened to be nearer Silver City I located there.

After being with the Sisters five years I was up against much the same thing that had happened to me in the Army, and that is, a regimen not of my own making and for which I was not responsible. So once more I pulled out, and with \$250 as a result of my five years' work started another institution. How I managed with the help of most wonderful friends to build my present institution is a story by itself. At this point, however, it is worthy of record to point out a curious difference between eastern and western people as exemplified by my experience in institution building. When I opened my present institution I was personally in debt for food, clothes, etc., to the people of Silver City for about \$1,800, and the institution owed them nearly \$18,000. I cannot conceive of any eastern town that would back a man in such circumstances simply on his face, as you might say, but those people did it for me and I have seen them do it for others.

When I began my work the question of climate was a matter of empirical opinion and nothing more. That did not satisfy me. I felt that I could not afford to put my life into a work—humble as it may be, it is my own and all I had—and that I could not afford to utilize it for the propagation of untruths, and therefore life with me during the past fifteen or sixteen years has been a constant effort to evaluate climate in tuberculosis, to find out exactly what it does mean and what it does not mean to an afflicted class of human beings. That is what I conceive to have been my mission in life. We have gone a long way in the evaluation of climate beyond the empirical opinion we started out with twenty-five years ago, when about the only advice received by consumptives was, "Go west, or die." We have accumulated statistics, but in comparing eastern and western institutions and their results, we have been handicapped by the unsatisfactory and unscientific terms used in classification. In private institutions we have great difficulty in following patients after they leave the institution, and it is ultimate results that compose the final criterion of success or failure in this work. Using the old terms, however, notwithstanding their unsatisfactory application to tuberculosis, that is,

quiescence, arrest, improvement, etc., as a basis of comparison, I found that in incipient cases we obtained 83 per cent. of recoveries, 83 per cent. of what we formerly designated as clinical cures, but now call arrest. This is about 32 per cent. better than is obtained in eastern institutions of similar character. Among moderately advanced cases we have 50 per cent. of successes, and among the far advanced, that is, technically far advanced, and this does not mean dying people, we have 13 per cent. of relative recoveries. In this connection we can well afford the time to record that Dr. John Pryor of Buffalo, who has had at least twenty-five years' experience in the treatment of tuberculosis, and who, as ex-President Roosevelt says, is the man who should receive the credit for the establishment of the great institution at Raybrook, in the state of New York, recently told me that though they had many successes among incipients in the eastern states he had never seen either a moderately advanced or far advanced consumptive recover in the east and he knew many who had done it in the west. In the light of ultimate results, however, I am convinced that the statistics recorded above are better than they ought to be, largely the result of an unsatisfactory classification in the beginning. I have, therefore tried in my work to find a practical classification which would enable us to come to a more legitimate conclusion in regard to the value of climate in tuberculosis.

One thing we cannot get away from is the presence or absence of tubercle bacilli in the sputum. We are working constantly to get rid of the tubercle bacillus and we know clinically that when we do we have a relatively high degree of success. The presence or absence of fever is another thing equally easy and certain of observation; almost any one can obtain positive knowledge in regard to these two points, although regarding the presence or absence of bacilli we do not depend on the microscope at my institution for final judgment. When the sputum is microscopically negative we pass the sputum through guinea-pigs, which, in my opinion, is the only absolute criterion of the presence or absence of tubercle bacilli. However, these two things, easy of determination, are equally easy of comparison with other institutions.

Now as far as the effects of altitude per se are concerned, there are some things we absolutely know that have been confirmed by every one who has attempted their confirmation. One of these is the increase of red blood cells; that is, a positive and not a relative increase that occurs in human beings in high altitudes—just as much in the blood flowing from the liver as in the peripheral circulation. This is the first scientific observation we had and has been

known for many years. Then Gerald Webb of Colorado Springs demonstrated that there was a positive and not a relative increase of the lymphocytes of the blood. This work was carefully confirmed in my own laboratory and by every one else who has tried it. A few years ago Oxford University sent an expedition to Pike's Peak to study the effects of altitude on human beings. They confirmed the work of Dr. Webb and others.

The observations on blood pressure in relation to altitude which have been done at my institution during the past eight years are very interesting, though it is only fair to state that there is some controversy in regard to this particular question. We have made many thousands of observations on tuberculous invalids and a large number on healthy people and find that among healthy people the average blood pressure from 20 to 50 years of age is 147, and among tuberculous people, all classes, 120. Now if the sea level observations are correct, giving an average blood pressure of 100 among tuberculous invalids, then ours reads 20 per cent. higher. I am inclined to think, however, that this is not a direct effect of altitude, but of a better general condition that follows residence in the mountains.

Now here is a very interesting thing: We know that one of the characteristics of tuberculosis, clinically, is a distinct increase in the gaseous exchange in the lungs between oxygen and carbon dioxide, a greatly increased use of oxygen and output of carbonic acid gas. This is apparently characteristic of the earliest time tuberculosis can be diagnosed, and according to Robin, "before it can be diagnosed." It is not characteristic of the third stage of tuberculosis, simply because the fight is over. Demineralization of the body is equally characteristic of tuberculosis and can be easily demonstrated by examination of the urine, leaving out of account the sodium chlorid which fluctuates so widely from day to day on account of dietary peculiarities. These two observations are in my opinion simply a part of the depressive metabolism that occurs in tuberculosis, but in connection with altitude the interesting thing about them is how quickly the normal balance is restored—much sooner than in institutions located at sea level.

In heliotherapy we of the Rocky Mountains may be said to be wholly without competition in the United States, for outside of high altitudes sunlight is very undependable indeed; in fact the scientific application of sunlight in tuberculosis is possible only to good advantage in high altitudes where we get the full effect of the actinic rays as well as a very large number of sunshiny days. In Switzerland sunlight has not accomplished very much in pulmonary

tuberculosis, though of vast significance in the treatment of tuberculosis of bones, joints and glands in children, and I have no doubt that in a short time you will all be sending your patients of this type to us in the West. It is hard to exaggerate the beautiful effects of sunlight in bone and joint affections. My experience with its application in tuberculosis of the lungs is not sufficiently great to permit me to venture a positive opinion. I am only certain that it should be used with great care under the direct observation of a physician and that it is capable of still further increasing the percentage of lymphocytes as may also be done with Bier's method of hyperemia, and I would hardly doubt that the sun acts in much the same way. That sunlight can penetrate a chest I have no doubt, because the light of an electric globe placed inside the chest of a cadaver is visible from the outside in a darkened room. Of course Nature soon covers these people with a dark coat of tan so much so that they no longer look like Anglo-Saxons, and it seems reasonable to conclude that the tan will impede the entrance of the rays, and still further we may conclude that if sunlight is such a wonderful thing for human beings Nature would hardly go to the trouble of covering us with something for the purpose of keeping it out. It undoubtedly has a good effect on tuberculous lesions, as has been completely demonstrated by Rollier's work, but that it is so good for the body in general I have grave doubts. The tan prevents it from doing any great harm.

These are some of the scientific results of altitude on human beings, particularly the tuberculous, and it seems reasonable to suppose that many others will be added as time goes on. Most people know that vital capacity is increased by residence in a high altitude. The clinical effects of altitude are, however, exceedingly striking, and I shall perform my most important mission to-night if I succeed in impressing them on my hearers. In almost twenty years I have never had cause to write a prescription for night sweats, for the simple reason that they do not occur with us. This statement is unequivocal. Night sweats invariably disappear after one or two days. It used to be said that high altitudes cause hemorrhage. This is absolutely not so. Robin has shown that in Switzerland hemorrhages are five times less frequent than at sea level. This has always been known among us in the West, but we have had great difficulty in impressing it on our confrères in other parts of the country. As a concrete example I may mention that for one entire year my assistant was never called out at night for a hemorrhage. The actual quantity of sputum as compared with eastern institutions is about 50 per cent. less. The same

is true of cough. In laryngeal tuberculosis, even the most rabid anticlimatic men still concede the applicability of dry, high climates.

Now here is a very interesting thing. Fever, in cases in which it was present with us, is 40 per cent. quicker to disappear than in institutions located at sea level. The increase of weight, comparing our institutions in the West with those in the East, is on the average 12 pounds to our advantage. Last year I had a rather unusual experience. Dr. David Twichell, a man who was educated and trained for twelve years in the exceedingly clear scientific atmosphere of Saranac Lake, which gives us so much confidence in what those men up there have to say, became my assistant. I did not prejudice him by anything done or said in favor of climate; in fact, he was left entirely free to work it out for himself. The first thing he did was to make an arrangement to compare facts and cases with Saranac Lake. In the time he was with me there were admitted about forty more patients at Saranac Lake than at my institution. Some of you may have had an opportunity to know Dr. Twichell, and if so, you will agree with me that there could hardly be a more careful clinical and laboratory worker than he is, and I have great respect for anything that he says. Now as a result of his comparison, case by case, in the year he was with me, we turned out 20 per cent. more patients from our institution without tubercle bacilli than they did at Saranac Lake, notwithstanding that at Saranac Lake they admit only early cases, a type which we rarely see. It should also be mentioned that at Saranac Lake the test for bacilli was with a microscope, and with us, when negative, by passage through guinea-pigs.

The best criterion in any serious chronic disease is the number of people alive and working after the treatment is over. Two years ago before the National Association for the Study and Prevention of Tuberculosis I presented a very convincing report bearing on this point. Dr. Shurly sent me seventy-one patients during a period of seventeen years. These patients were all followed without exception, and at the end of seventeen years 70 per cent. were alive and working members of society. To me this is conclusive evidence of the value of high altitude treatment, especially if you will take the trouble to compare it with the final results of treatment at Mont Alto in Pennsylvania where so few are alive who were treated during the first two or three years of that institution's life as to make its usefulness a matter of very great question indeed. I might also mention that just as many of these patients recorded by me are living in the East as in the

West, which ought to explode the fallacy that if you get well in the West you must stay there.

After Dr. Twichell had observed the results of climatic treatment he said to me: "These things ought to be better known." "Why," I replied, "we have been preaching them and talking them for years, but as far as I know the eastern men must think we are all liars, or there is something mysterious about the matter, for they pay not the slightest attention to anything we say on this side of the Mississippi River."

I do not know whether you recollect it, but the first climatic observer was Hippocrates, who recommended his consumptive patients to live out of doors in the mountains and drink milk. He observed that in long continued ailments change of country was a good thing. There is something psychologic about change, which in itself, even when it is from a good to a worse condition, as well as from a worse to a better condition, may be beneficial to a chronic invalid. The matter of change is a thing so empirically established that I am sure I do not have to emphasize it in talking to you.

There are objections to climatic treatment. The first one is, a patient does not do well. Such a one should be sent home. If eastern physicians should follow this principle and send us their patients who are not doing well, we of the West would have no cause to complain of lack of clinical material. I do not think we ever should keep a patient who is persistently doing badly, for there is just a chance that he might do better at home. Sometimes I slip up in determining whether he will or will not do well, but when convinced, I promptly act. When patients are persistently cyanotic they never do well in a high altitude. Such patients demonstrate an essential circulatory weakness which is incompatible with recovery from tuberculosis under any climatic condition. These patients probably have a toxic myocarditis. Old people who cannot sleep well in a high altitude and people with nephritis should not be sent to high climates. Just because they have fever, however, is no excuse for keeping them at home, for getting rid of fever is our long suit.

There is another insuperable objection to climatic treatment, and I regret that I have to tell you that it involved to a great extent the sacrifice of the original ideal I had in this work, and that is the care of relatively poor people. I do not know how it is with public institutions, but private institutions have a tendency, it seems to me, to grow more expensive. The first year we lost money at the price charged, not very much, but it forced an increase in the rates. Even then the patients were not satisfied with the equipment and what we had. I still think

it was good enough and amply sufficient. But you all know how chronic invalids are. They always want something a little better than you have and are continually comparing with other institutions and places. In those days there were plenty of holes in my institution, and if you were looking for luxuries, some of them were big enough to throw a cat through. But nevertheless the tendency to improve is constant and every time you make an improvement it increases the cost, and finally when you arrive at the place where you have a first-class institution where any one can come and be cared for and his wants provided for in the way civilized people are accustomed to—when everything is complete, the laboratory, the nursing staff, the cuisine, the dairy, the Roentgen-ray equipment, and so on *ad infinitum*—the painful realization comes that the poor can no longer be provided for. This has been a very great disappointment to me, which I have tried to meet, however, by utilizing Silver City and its boarding houses to the best of my ability and I want to say to you that we do not turn down your poor patients when you send them to us, but do the best we can for each and every one in accordance with his means and every year do many thousand dollars worth of free work for these people. This is not a vain boast, but simply facts.

Now I want to say a few words about the present status of the treatment of tuberculosis. The only difference between ancient and modern practice in the treatment of tuberculosis which is in our favor is the systematic application of rest and discipline. That is all that has been added of any value in treatment since Hippocrates lived and worked. I am talking about measures for direct cure. If there is anything we do know it is the relative uselessness of medication in tuberculosis. There is no direct way of killing the tubercle bacillus in the living body. I do not wish to disparage therapeutics for there is a little something helpful in tuberculin, in iodine, perhaps, and sometimes quite tangibly in nitrogen compression.

The other day just before leaving home I had a letter from Dr. Trudeau. Dr. Trudeau is so lovely a character as to be almost not a human being and after almost forty years' experience in tuberculosis, this is what he wrote to me: "I am convinced that there is no such thing and never will be any such thing as a true immunity in tuberculosis, and if I had my life to live over again I would devote it to trying to find something which would kill the tubercle bacillus in the body without injuring the organism." Now as the conclusion of a man of his standing that should give us pause—to think of just what has been accomplished by

all the bacteriologic delving that has been applied to tuberculosis. It is absolutely true that practically all the knowledge we have in tuberculosis to-day is negative in its character. It was necessary and may lead somewhere, but it has not led anywhere yet. The only thing on earth that we can hold to is the systematic raising of resistance. It is the only route open to us that is safe and proper at the present time. The dietetic-hygienic treatment as applied at sea level institutions in this country may safely be voted a practical failure—their "cures" almost all relapse and die. This is easily proved by taking the ultimate results of an institution like Mont Alto, and we had the facts in 1900, if we had chosen to utilize them, for in a report made to the Reichstag at that time by the Central Committee on Tuberculosis the Germans proved that the sanatorium movement in Germany, as far as the cure of consumption was concerned, must be voted a failure and that if it was to accomplish anything at all it must be supplemented by something else.

Now you know that nothing German is ever well received in Paris. Even the tubercle bacillus had difficulty in gaining recognition; therefore, Germany's sanatorium idea, so completely absorbed by us of the United States, never made any headway in France. There are no great public sanatoriums for tuberculosis in France. They have not chosen to handle the tuberculosis problem that way, but are going deeper in the effort to limit this disease than they ever did in Germany—so deep, that they begin, not only with the economic life of the people but by a persistent effort to separate the consumptive mother from her child so as to limit superimplantation, which we know now is the cause of tuberculosis in the adult. In both countries, France and Germany, statistics are gathered in much the same painstaking way. What is the result of a comparison of statistics in any year, 1913, let us say, between France and Germany, between Germany dotted with sanatoria and France with practically none: Morbidity less in both countries and reduced the same in both in the last twenty-five years; mortality exactly the same in both, one loaded with sanatoriums and the other without any. This should mean something to us. In a large sense, gentlemen, the sanatorium movement in this country is humanitarian and that is all. It is accomplishing nothing or relatively nothing toward the diminution of the final death rate in tuberculosis. It is interesting to observe that in the registration area of this country tuberculosis mortality in its reduction is following the line of general reduction in mortality. People lead healthier lives than they formerly did, in a healthier environment, and the economic improvement of our people will accom-

plish infinitely more than sanatoriums in lowering the death rate from tuberculosis.

Let me tell you something that is an almost conclusive demonstration of this matter of economics in its effect on tuberculosis. A few years ago in Paris they had a near epidemic of consumption among the firemen and it was put up to Professor Robin to put an end to it. He undertook the matter providing he had *carte blanche* to do as he pleased, and this was his method: He raised the wages, lowered the hours, and increased the number of firemen. That was the end of the epidemic. So the final elimination of tuberculosis, or its diminution to a relatively insignificant factor in the life of the people, is largely an economic matter, not a medical problem at all, for apparently the human body is capable of resisting even superimplantation in early life, providing subsequent years are healthfully lived in a healthful environment.

Now I want to say just a word further before I close on the sanatorium movement in the United States. It is only reasonable to conclude that as regards cure what has been true of Germany will prove true with us and that the results have been disappointing in the extreme may be determined by any one who will take the trouble to communicate with a great clinician in the East; almost any one will do who has not been identified in any way with the sanatorium movement. Just write and ask what the final results have been and see if he does not tell you that the free clinics of the great cities are overflowing with so-called sanatorium "cures." In a recent conversation with such a man I was told that in his opinion when a person who had to work for a living got tuberculosis the best thing that could happen to him would be to die as soon as possible.

Now let me say with all the emphasis of which I am capable that this is not true of the Rocky Mountains. I have seen many, many people without money work their way to health. This is not the best method to be sure, but that it is frequently successful I am equally sure. Now, if we grant, as we all must, that there is no such thing as a cure for tuberculosis, and that in this sense we stand exactly where Hippocrates did, why not, in the name of Heaven, utilize climate to give us the extra 25 per cent. increase in actual recoveries in good cases, and many years lengthening of life in bad cases? Dr. Theodore Williams of London, a grand old man who devoted fifty years of his life to consumptives, evaluated climate in tuberculosis in mid-Victorian days. In a long statement of cases and final results regarding treatment in Switzerland and in England he proved beyond a doubt that he obtained

much the best results in Switzerland. It is only in the United States that we find men like Lawrence Flick of Philadelphia, and his co-workers, who say there is nothing to climatic treatment. And they are not so emphatic as they were a few years ago, since they have had an opportunity to become wise to the real situation as exemplified by the reports of their great state institutions. I want to say in closing that I thank you very, very much for listening to my plea and further, let me say, that if you do not wish to send your good cases to us we will gladly take your failures and do the best we can with them.

DISCUSSION

DR. O. H. BROWN: Six or eight years ago I listened to a talk by a famous English physician who argued that climate was of inestimable value in the treatment of tuberculosis. His course of argument was this: A certain man who was a sufferer from tuberculosis was sent to the Alps, where he apparently recovered, came back to his former location, again developed the disease, and was sent up and back six or seven times, always getting better in the high altitude and always relapsing in the lower. To him that seemed to be conclusive as to the value of high altitudes in the treatment of tuberculosis. Dr. Bullock gives us more scientific data, but yet I am not convinced. We must of course, admit that there is a difference in climates. There is no one climate which has all the good features and none of the bad ones—unless it is Silver City—and vice versa.

The treatment of tuberculosis primarily consists in what is known as the rest cure, and this depends on many facts, but especially on the psychical condition of the patient. The patient's respiratory apparatus is so intimately connected with all parts of his central nervous system that respiration is directly affected by many factors which are under the control of the mind. Dr. Bullock gives us his idea of treatment, perhaps, when he says that he himself was on the flat of his back for two years. Rest—and I mean by that, all you can obtain by the treatment, mental and physical—is of prime importance, and what it means to Dr. Bullock, I dare say, it does not mean to the followers of Dr. Trudeau. I visited Saranac Lake some years ago and I was struck with the relative inattention that was given to the question of rest. I am not saying that as a criticism, but it occurs to me that perhaps some factors of that sort might account for the failure alluded to by Dr. Bullock and not to be charged entirely to climate.

DR. R. H. McBAINE: As Dr. James in his lectures to his students in New York would say, one of the most important elements in the treatment of tuberculosis is environment, and he meant by environment everything that is not bought in a drug store—that is, proper habits, proper hours, proper rest, good food and good management. I simply want to strengthen what I have just heard. It is the personality of the doctor and his management, in my opinion, that are most important.

DR. WALTER FISCHER: Dr. Bullock did not state the average length of time it is necessary for, say, an early case, or a moderately advanced case, to remain in such a sanatorium.

Another point, when we advise a patient to go away for tuberculosis often he will say, "Well, Doctor, that is all right, I may be able to go out

and stay a year, but can I come back?" The prevalent opinion is that supposing a person does go west and is cured, or the disease is arrested, he will relapse as soon as he returns to St. Louis. I would like to have Dr. Bullock, if he can from memory, state what proportion can return safely and whether it makes a difference what part of the country they come from.

I was very glad to have him mention the fact that there are certain cases which do not do well in a high altitude—those cases in which there is an involvement of the myocardium, and I think the point he raised of slight cyanosis of the fingernail an important sign and should be considered.

DR. A. N. RAVOLD: In 1896 when I was abroad studying the construction and management of hospitals, I visited a number of sanatoriums for the treatment of tuberculosis in England, France, Switzerland and Germany, and later the only one in Austria, at Altoona, near Vienna. All these institutions were good and all issued favorable reports about themselves, but aside from this conceit several had built up international reputations for merit and it was these that I studied. Why were they better than the others? Was it on account of climate, location, accessibility, management and housing, able laboratorians and skilful diagnosticians, or clever advertising? No, not one or all these combined. I was convinced it was exceptionally able physicians at their head. The physician must have the ability to inspire implicit confidence, loyalty, affection and unquestioning obedience. Tuberculosis is always a treacherous disease and its victims are erratic, high strung and very difficult to manage. They therefore need strong, able physicians to care for them. I came away from Europe convinced that it was not climate or location that was paramount, for as good results were shown by some of the English sanatoriums in the foggy atmosphere of that island as in the best institutions of the middle heights of Germany or high in the mountains of Switzerland. I held this opinion of the United States until I became acquainted with the climate of Arizona and New Mexico. For several years I spent my vacations in the mountainous region south of the Gila river or in the mountains at the head waters of the San Francisco river and learned to love the desert in spite of its many forbidding characters. I believe the climate of no other country that I have visited compares with it for the treatment and cure of tuberculosis, in fact I was so thoroughly convinced of this that I at one time seriously thought of establishing a sanatorium near Alma, a small place about 150 miles north of Silver City. I am very glad indeed to hear Dr. Bullock with his statistics substantiate my contention. It must never be forgotten that this country is a desert, good food scarce and necessarily high priced and hence very expensive to live there comfortably. Nevertheless large numbers of poor consumptives go to that country yearly with the hope of regaining health. I have seen numbers of "lungers" in hotels and boarding houses or living in the open, the most forlorn and pathetic looking sufferers in the world. Nearly all gambled and many drank to excess, a few recovered. I have visited many sanatoriums in the United States, and when comparing them with those of Europe the notable difference is the astonishing lack of discipline in the institutions of this country. I have seen much gambling and a surprising amount of whisky drinking among the inmates of the sanatoriums of the western states that if not actually contemned was looked on askance by those in charge. Dr. Bullock speaks of the large number of sanatoriums that now exist in Arizona and New Mexico, but he does not tell you that many of them are poorly equipped and

some of them in charge of men of questionable medical ability. I am certain that an investigation of public and private sanatoriums for the treatment of tuberculosis of this country by the American Medical Association would uncover some startling conditions.

DR. LOUIS H. BEHRENS: We have been to blame in sending our tuberculous patients away, as we have done in the last fifteen or twenty years, practically without any instructions and not knowing where to send them or what they were to do. But during the last few years there have been established throughout the West many splendid institutions and we know that in our own city and in our state sanatorium splendid results are obtained, if not in the cure of the consumptive patient, at least in the educational factor of prevention.

I rather disagree with another speaker that we medical men cannot do anything regarding existing conditions. I believe that we have done a great deal. The public look to us to instruct them in the various phases of the disease and we become sociological workers. If we had not instructed them there would not be this social trend that to-day is making for the welfare of the poor people.

DR. LOUIS C. BOISLINIERE: The climate of New Mexico is far superior in every way to any other climate that we have in America. Before Dr. Bullock went to New Mexico in 1887 or 1888, I think it was, the French Academy sent out a commission headed by Dr. Petin to find the best climate in the world for tuberculous people. After visiting different climates throughout the world the commission reported that New Mexico and the borders of the Sahara Desert were the best places in the world for tuberculous patients.

Now, following Dr. Bullock's ideas in his writings—calling a spade a spade—I want to make the broad statement that climate per se never cured anybody. I say this without qualification. I do not say the sanatorium treatment never cured anybody. If climate is the essential and only factor, why did they choose Saranac Lake in the Adirondacks? Our great and glorious climate in Missouri, which we do not need to belittle, is far superior to that of Saranac Lake. Saranac Lake lies between Lake Champlain and the St. Lawrence River. It snows every month in the year except August, and it rains every day in August. In the winter there is perpetual snow, the thermometer registering 30 to 40 degrees below zero. But it is the home, the *fons et origo*, of scientific phthisiotherapy in this country.

The one thing absolutely essential to a cure of a case of tuberculosis is, first of all, a good doctor. We must not forget that if we are phthisiotherapists we are also internists, and the curing of tuberculosis lies essentially in the raising of resistance. Now the raising of resistance consists in doing away with everything that has a tendency to lessen that resistance and do everything we can to increase it, and only a good doctor can do that; only a good internist, because tuberculosis is a polymorphic disease which is protean in its manifestations. The necessary factors in the conduct of a case of tuberculosis are a diagnosis, not only of the pulmonary condition but of all concomitant disorders, the careful individualization of each case, so that a reasonable estimate can be made of the general and specific resistance, and then the application of the approved scientific methods for the increase of both. These measures can of course best be carried out in a sanatorium.

Therefore, Dr. Bullock cures his patients not by virtue of climate alone, but because of his magnificent sanatorium and his scientific methods. If climate alone will do it, what is the use of the

equipment? Why not put them in a tent, feed them well and let it go at that? It is the unanimous opinion of the greatest authorities that tuberculous persons will do well in any ordinary climate, provided they have proper care and attention, and certainly our results warrant this belief. It follows, therefore, that no physician is justified in sending a patient away from home unless he can commend a complete sanatorium régime under the constant guidance of a skilled physician. I am accustomed to tell my patients that constant medical supervision, proper régime of life and contentment of mind count 90 per cent. and that climate counts 10 per cent.; therefore do not sacrifice the 90 for the 10. My experience is that it costs from \$75 to \$100 a month to maintain a patient at a properly equipped sanatorium. It is absolutely inhuman to send a man out west with insufficient means or depending on the prospect of making his own living. No one has described more graphically the pathetic condition of these poor, deluded people than Dr. Bullock himself. His description is quoted in Huber's work, "Tuberculosis and Civilization." Dr. Bullock states in another place that only 1 per cent. of those who go west with insufficient means and depending on the hope of making a living there recover. Mount St. Rose is full of climatic failures. I may not have understood the doctor correctly as regards sanatoriums doing very little or no good. If this is so, why do we see them being established in every state in the Union? Why do the insurance companies in Germany continue to maintain so many of them unless they have proven a paying investment? The truth is that there is no essential reason why a tuberculous patient cannot have as good a chance of arresting the disease in his home climate as abroad. As Dr. Taussig remarked, it is a disease of the masses—an industrial disease—and sociologic efforts to curb it are effective only in so far as they tend to raise the general resistance of the people, and they have proven totally inadequate. I fully agree with him. The solution of the tuberculosis problem lies somewhere in the domain of clinical observation and scientific research and not in climate.

DR. BULLOCK (closing): I must say that I have enjoyed this discussion tremendously. We climatic fellows are rather accustomed to being snubbed and so it has really been a delightful experience, but so much has been covered by the discussion that I fear I cannot do it justice. I would like to say that if the sanatorium has any real value as a curative agency, why is it that the results are the same in France and Germany? As to the question of its being a disease of the masses, I admit it, but it is also a disease to a great extent of the syphilitic, dissipated and alcoholic classes; in fact, I have wondered at times if I should not establish a sort of dipsomaniac annex. Dr. Ravold talks about the character of the man. That is preeminently true. There are many cases in which the character is such that the patient cannot be successfully managed. There are a great many people working and living in the town of Silver City who have passed through my hands; in fact, my contribution to the population of Silver City has been very substantial indeed. I think it is true, as Dr. Hurford said, that very many do get well without any help at all.

Dr. Fischel asked the length of time required. This is a very interesting matter indeed. Getting well of tuberculosis is as a rule a long, long process, and we only seldom can keep people in our institutions until they entirely recover, but we do try to keep them in the country until recovery is complete. Our country is now sufficiently developed so that we have large mines, employing many thousands of men. If a man is worthy I can almost always find him a job. My entire staff are, or have been, consumptives.

Dr. Taussig brought out the point that incipients do well in St. Louis. Certainly they do, but I believe it can be proved to your satisfaction that we can get 20 per cent. better results than you do even among incipients.

Dr. Brown mentioned a very interesting case. I know of another of the same type. Dr. Solly, who was my own physician, made three separate trips in search of health from London to Colorado, and the last time, his father, who was a great English physician, said to him, "Don't let me ever see you in England again." He finally managed to live about twenty-five years in Colorado.

This matter of rest can be worked to death. I would like to insist on that. I have sometimes taken people out of bed with fever and found it to be to their advantage to do so.

Dr. Boisliniere covered a great deal that I cannot even approximate in answering. He spoke of the climate of Saranac Lake. You know that Saranac Lake was chosen in the most sentimental way imaginable. Dr. Trudeau went up there and got better—not well, but better—and then he conceived the idea of a place for poor people, and recognizing the hopelessness of advanced tuberculosis in that climate, he stipulated that only incipients could be admitted. Unfortunately, he happened to choose a place with about the meanest climate in this country; in fact, their own natives describe it as "ten months of winter and two of summer." Dr. Twichell said to me, "I have been here eleven months. Never again could I conscientiously practice tuberculosis at Saranac Lake." One of the physicians has spoken about physical diagnosis and the importance of watching the lungs to see what is going on there. Only in a very coarse way is observation of the lungs profitable. The more I study diseased lungs the less I know of what is going on there. As an example I would like to mention my business partner, who became a consumptive at 16 and who recovered at 36, that is, lost the bacilli. For twenty years he has had rales over his left lung, and yet he is seemingly absolutely well. So physical signs can be extremely misleading.

It is sometimes necessary to peremptorily discharge a patient, but it is interesting to observe that if it becomes necessary to throw a patient out, the home doctor almost always ceases to be your friend. The patient writes back and says he was abused and ill treated and the home physician will almost always take his part. I do not know why it is, but it is a psychologic peculiarity of our profession. It has been said that in general New Mexico is a bad place for consumptives, not referring to climate, of course. It appears to me that there is a good deal of truth in that observation, but as we increase the number of our institutions and get a better class of medical men to practice in our state, this observation is certainly less true than it was a number of years ago. Fully 90 per cent. of the physicians in New Mexico have had tuberculosis, and what is more, have worked their way to health.

This question of character and management reminds me how my wife went at it. When I was very sick and thought I could not stand it longer I would say: "O, Lord, I am going to quit!" She would reply: "Well, quit if you want to and I will take my baby and go home to my father." That was the psychologic element that helped to pull me through. You would be astonished how little homesickness we have. Occasionally I get a crying woman, or a gloomy man, but as a general thing we are like one big family. I frequently lecture to my people. They are never deceived about anything. If they are worse, they are told so, and sent home if it seems best. There is no deception at all, which always does harm in the long run.

TREATMENT OF TABES DORSALIS*

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Our conception of the etiology, pathology and treatment of tabes dorsalis, as a result of numerous successful investigations carried out during the past few years by a large number of workers, has undergone some change. It is proposed in this discussion to consider in a partially systematic manner some of the present-day ideas regarding the treatment of the disease. The literature on the subject is now too voluminous to be quoted to any extent in a short projection of the subject which I propose to give here. Nevertheless it is not intended to omit the mention of anything which is of importance to the topic.

That tabes dorsalis is essentially one of the manifold manifestations of syphilis in the later stages, a luetic involvement of the central nervous system, has now become pretty well accepted by the medical profession. Perhaps some would like to eliminate the term parasyphilis, an inheritance from the labors of the late Fournier. Our attention was called to syphilis as a cause of tabes dorsalis some years ago by Fournier, Westphal, Erb and Leyden; and in later years this has been established as certain by laboratory investigations and especially the labors of Widal, Sicard and Ravaut with cerebrospinal fluid studies, serodiagnostic analyses by Wassermann, Plaut and Nonne, and especially the discovery of the *Treponema pallidum* in the brain tissues by Noguchi which has been verified by others.

I would continue the use of the term parasyphilis or metasyphilis. They cover admirably, clinically and pathologically, a group of degenerative conditions, and signify as much as the word chancre. Besides tabes and paresis we should include under the same group other definite degenerative conditions of the nervous system.

While it is not within the scope of this dissertation to consider the pathology and diagnosis, at the same time I must insist on an accurate diagnosis and a fair knowledge of the various changes or degenerations which occur in the neural tissues of the patients afflicted with tabes dorsalis, before one is justified to undertake the direction of the treatment or care of the case. It is only by a recognition of all the clinical evidence and a careful physical, microscopical and chemical analysis of the cerebrospinal fluid that we might be able to estimate the various possible pathological changes in the nervous system.

* Read before the Kansas City Academy of Medicine, April 9, 1915.

Assuming that a very large percentage still have active lues and especially a syphilitic meningitis, we naturally turn to the list of anti-syphilitic remedies. There are only three drugs to be considered in this category—the arsenical preparations, mercurials and the iodids.

The iodids are the mildest of the three groups in the power to destroy the *Treponema pallidum*. They seem to have some value in certain cases. The sodium or potassium salts may be used, the former being preferred in doses of 10 to 100 grains three times a day.

The mercurial preparations have a more powerful destructive influence on the syphilitic parasite. A great many preparations have been used for a long time. No fixed number of doses, injections or inunctions will hold for all cases. I prefer as a rule the inunctions to the injections. Mercury by the mouth is the last choice. Neither the iodids nor the mercurials give anything like the results in tabes or other parasymphilitic disturbances as compared with the simpler secondary or tertiary forms of syphilis.

Merely giving a series of intramuscular or intravenous injections of salvarsan or neosalvarsan has not proved to be the great sterilizer as was anticipated at an earlier date. However, these arsenical preparations of Ehrlich have been of much service in certain cases of tabes.

As a consequence of unsatisfactory results by the usual methods of giving neosalvarsan and salvarsan, Swift and Ellis working in the Rockefeller Institute devised a method of giving salvarsanized serum by the intraspinal route.

The technic begins with giving an intravenous injection of neosalvarsan or salvarsan, using a good-sized dose. One hour, or possibly three-quarters of an hour later, 30 or 40 c.c. blood is removed from the same vein into which was injected the arsenical solution, or any other vein. A rather large-sized needle facilitates the flow of blood. The serum may be separated from the fibrin and corpuscles at once by centrifuging, or allowed to stand for twenty-four hours, when the serum can be drawn off. The serum separates from the clot more readily at a temperature of 55 F. or better than in the refrigerator. On the following day the serum is heated at 56 C. for thirty minutes and diluted with a normal salt solution to 40 per cent. A lumbar puncture is done, 15 to 50 c.c. of cerebrospinal fluid removed, and the treated serum slowly introduced into the lumbosacral cistern. The fluid may be allowed to enter by gravity or be injected carefully by means of a large glass syringe fitting the puncture needle. Many have no pain or very little in the lower extremities. Others have pains

so severe as to require drugs for a short time. One or two grains of the bromids taken about the time of the lumbar puncture will often prevent much of the pain. Proper aseptic precautions must be insisted on. It may be repeated in about two weeks. The subsequent treatments may number a few to a dozen. To show what a few treatments might do I am reporting an abstract of one of my earliest cases as follows.

CASE 1.—J. H., man, aged 38, mail carrier. Alcohol, tobacco or other excesses denied. Gonorrhea seventeen years ago. Syphilis denied. Onset of tabetic symptoms June, 1910. Examined February, 1913, complaining of weakness in lower extremities, pains in right leg, unsteadiness in the dark, sense of constriction around the waist line, loss of sexual power and numbness in the legs. The objective findings were fair motor power, much ataxia in the lower extremities, Rombergism, loss of patellar, Achilles and cremasteric reflexes, Argyll Robertson pupils, some analgesia and anesthesia in the lower extremities, diminished deep muscle sense and lost vibration sense in the lower extremities. The cerebrospinal fluid was under increased pressure, had a lymphocyte count of 65 per cu. mm. and gave positive globulin and Wassermann reactions. Two Swift-Ellis treatments were given respectively on Feb. 15, 1913, and March 4, 1913, 0.9 c.c. neosalvarsan being used intravenously for each. Patient had been unable to work for a few weeks before treatment. He has worked continuously to date since the treatments. There have been almost no pains. The ataxia has decreased greatly. The cerebrospinal fluid was improved much.

Swift and Ellis report a number of encouraging results. The pleocytosis in the cerebrospinal fluid can usually be reduced. Some of the clinical manifestations can be ameliorated more or less. I have had some cases with a complete disappearance of the tabetic pains, and others relieved little or none. The optic atrophies and other evidences of degeneration are not much affected by the treatments.

Regarding the *modus operandi* of the treatment, there is no certainty. Certainly only a very small quantity of the arsenical preparation can be present in the diluted serum introduced into the subarachnoid space. It has been claimed that the beneficial results may be due to the several removals of cerebrospinal fluid. I can cite one case aiding such a claim as follows:

CASE 2.—F. A., man, aged 55, real estate dealer. Had gonorrhea at 18. Denies syphilis. Onset seven years ago with tabetic pains in lower costal and epigastric regions and a little later lightning pains in the lower extremities. There developed quickly a general decline in health and trouble with micturition. The objective findings obtained five years ago were anemia, emaciation, Argyll Robertson pupils, left ptosis, a mild Rombergism, no motor palsies, loss of Achilles and right patellar reflexes with a very feeble left patellar present, and deep muscle and vibration senses diminished in lower extremities, and areas of mild analgesia and anesthesia. Rachiocentesis showed the cerebrospinal fluid under greatly increased pressure, with a pleocytosis, positive

Nonne-Apelt, butyric acid and Wassermann reactions. The removal of cerebrospinal fluid for therapeutic purposes was done on July 29, August 6, 25, Nov. 11, 1909, Feb. 6, 1910, and Sept. 19, 1911. From 20 to 35 cm. were removed each time. Each spinal puncture promptly relieved the tabetic pains. All the tabetic clinical findings diminished. His weight and general health has improved and for some time light remunerative work has been indulged in, whereas he had performed no work for two years prior to coming under my care. No antiluetic drugs were given.

Many cases of tabes may be greatly relieved, especially of the pains and ataxia, by a long period of physical and mental rest. This usually means a period of four to ten weeks of absolute quiet in bed with massage and special care.

All cases should be protected from alcohol and the various excesses. Rough climatic conditions often increase the painful symptoms.

Strychnin and tonics may be used with beneficial influence in some cases. Not infrequently it is necessary to treat the bladder by catheterizations, silver nitrate solutions or by local massages.

There often arises the opportunity to administer symptomatic treatments, the most important being for the pains and ataxia. The tabetic pains or crises if not relieved by direct treatments for the disease may call for quick relief, which might not always be easy to accomplish. Hydrotherapy, mechanotherapy, counterirritation and electricity have been recommended. There are many drugs that have been used to alleviate the pains. The mild depressants do not afford relief as a rule. The opium preparations are dangerous on account of forming a habit. Pyramidon is a valuable drug, but is expensive. I often use a prescription with pyramidon 0.2 to 0.8 gm., acetanilid 0.1 to 0.3 gm., sodium salicylate or aspirin 0.2 to 0.7 gm., and sodium bicarbonate 0.5 gm., which may be repeated two to four times per day if necessary. The Foerster operation has been performed by a few to check unbearable pains. This involves a major operation, the section of several dorsal roots within the dural sheath. The chief objection to this treatment is that the tabetic pains are infrequently confined to three or four root areas which is about the limit of possible sections. It may be considered in a very limited number and selected cases.

The troubles with the gait, which often reach a degree entirely preventing the patient from walking, are not as a rule due to a motor weakness. They are caused by an interference with the functions for co-ordination. Some brilliant results have been accomplished for these ataxias both in the lower and upper extremities by the use of certain exercises with the object of re-educating the function of co-ordination. The

exercises, as described at length by Frenkel and first used in Raymond's clinic at the Salpêtrière in Paris, may be used. A great many variations and individual exercises have been narrated by different writers. Almost any one can invent appropriate exercises for the individual patient if the principles are appreciated. Motor fatigue should be reduced to a minimum. Repeat the exercises frequently for short periods each day. These exercises begun during a rest treatment and continued more vigorously after the patient is up are highly recommended.

CONCLUSIONS

1. A careful examination and diagnosis is essential before beginning the treatment or care of any case of tabes dorsalis. This means something more than merely naming the case locomotor ataxia, and proving that the patient had contracted syphilis at one time. Determine as nearly as possible the amount of nervous tissue involved, the quantity of chronic syphilitic inflammation of the leptomeninges, vessels and nerve structures, and the tract and nerve cell degenerations.

2. Despite the certainty of the relationship of the *Treponema pallidum* as a cause of tabes dorsalis, we are not yet in possession of a cure or easy therapeutic method. However, much can be done to check the progress of the disease and alleviate the annoying symptoms.

3. The tabetic state should be recognized in its incipency and early treatment begun. Thus the development of most of the symptoms might be checked or retarded.

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CHROMAFFIN SYSTEM AND GLANDS OF INTERNAL SECRETION*

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Much prominence has been given in recent medical and biological literature and discussion to the glands of internal secretion. Some of these possess certain cells that react to chromic acid or its salts and accordingly the term chromaffin cells is applied to them. As a consequence, ductless glands and the chromaffin system are frequently understood to mean the same thing. The chromaffin system, however, should not be confused with the other glands of internal secretion, although the two may be closely intermingled and both are concerned in

* From the Department of Anatomy, University of Kansas.

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internal secretion. In the higher vertebrates including man the following structures and organs are concerned with this internal secretion:

1. The true chromaffin system of sympatho-chromaffin origin, which includes the carotid body, the coccygeal body (?), the chromaffin bodies in close association with the sympathetic trunk ganglia and plexuses such as the aortic bodies, paraganglia of Cohn, etc., and the medullary substance of the suprarenals.

2. Ductless glands for the most part of exodermal or endodermal epithelial origin, some of which may give a chromaffin reaction: hypophysis; thyroid; parathyroid; thymus; islets of Langerhans in the pancreas.

3. Ductless glands of endothelial and mesothelial origin: cortical substance of suprarenals, testes, ovaries.

CHROMAFFIN SYSTEM

The chromaffin system existed in phylogeny long before the recognizable development of the glands of internal secretion. Chromaffin cells appear more or less diffusely distributed along with sympathetic nerves, either singly or in groups, throughout the entire vertebrate series, with the possible exception of amphioxus. In the lowest fishes, Cyclostomata, a well-developed system of chromaffin cells is found. Giacomini has thoroughly investigated and demonstrated these cells in Teleostei, Ganoidei, and Dipnoi. Leydig described them in Elasmobranchii. Even in the invertebrate kingdom, Poll and Sommer found that certain nerve cells in the abdominal ganglia of certain worms gave a chromaffin reaction with chrome salts. Biedl obtained the biological tests for adrenalin. Gaskell has described them in the annelid group.

In *Petromyzon* the chromaffin system is very diffuse, though it is regularly distributed along the cardinal and segmental veins along with sympathetic nerve cells. There is every reason to believe that there may be a local action of chromaffin secretion along with the sympathetic nerve cells on the vascular mechanism. Indeed, owing to the great abundance of chromaffin cells and the more or less scantiness of the sympathetic nerve cells in *petromyzons* it may be true that the former may act independently and even in place of the latter.

Throughout the vertebrate series chromaffin cells, sympathetic nerve cells, and contractile vascular tissue always occur in close anatomic and physiologic relation.

Nature of Chromaffin Cells:—The terms chromaffin, chromophil (Stilling), pheochrome (Poll) have been applied to these cells because they assume a yellowish or brown color when treated with chromic acid or dichromates. This

reaction is confined to the cytoplasm, and considerable controversy has existed as to whether the coloration is a granular or a diffuse one. Some investigators have claimed that the reaction is confined to cytoplasmic granules, while others have contended that it is diffuse throughout the cytoplasm. It has been shown, however, that the cytoplasmic reaction depends on the reagents used in the fixation of these cells. When treated with potassium bichromate or Müller's solution the brown color is diffuse, while if formalin is used in connection with the bichromate a granular condition is observed. Other reagents affect this peculiar constituent of the cytoplasm. In the case of the medulla of the suprarenals, where chromaffin cells are found in great abundance, it has been shown that they blacken in osmic acid, turn green or blue in iron chlorid, reduce gold chlorid, stain intravital with neutral red, and also stain with basic stains.

Kingsbury, among others, has shown that the reaction is due to the presence of adrenalin and that "the so-called chromaffin reaction therefore depends not on any special affinity of the cells of the suprarenals for chromium salts, but simply and solely is due to a reduction of the chromate to a chromium trioxid (?) combination by strong reducing substances present."

Embryology.—Respecting the ontogenetic origin of these cells much difference of opinion has existed. It is generally agreed now that they develop in connection with the sympathetic nervous system. The earliest anlage of sympathetic nerve cells which migrate out along the visceral or ventral primary division of the cerebrospinal nerves, are undifferentiated. These cells may be regarded as sympatho-chromaffin cells, for it is from these cells that both true sympathetic nerves and chromaffin cells are derived.

The latter in the process of development become larger than the true sympathetic nerve cells and in the cytoplasm granules are developed, which show the characteristic reaction to chrome salts. Later these chromaffin cells become segregated into the so-called chromaffin bodies. Likewise the sympathetic cells collect in groups to form ganglia. Thus chromaffin bodies and sympathetic ganglia lie in close apposition to each other. Each may be enclosed within its own capsule.

It is interesting here to compare the embryology of these cells with the phylogeny already referred to. In the lowest vertebrate forms the chromaffin cells predominate in numbers over the sympathetic nerve cells. Now we observe in embryology that both have a common origin. Is it possible that the former represent a more primitive condition than the

sympathetic nervous system and that they functioned alone in influencing the contraction of vascular tissue? In higher vertebrates the sympathetic cells greatly predominate over the chromaffin system. It may be that the sympathetic nervous system is gradually taking the place of the chromaffin system and that these chromaffin cells are phylogenetically retrogressive structures.

Likewise in ontogeny, just why the chromaffin cells should be so extensively developed in antenatal life when the demand made on the sympathetic system is probably at a minimum, is an interesting problem indeed. For in an embryo of 18 mm. the chromaffin system even exceeds the sympathetic nervous system. In postnatal life, on the other hand, when the functions of the sympathetic system are at a maximum, these chromaffin bodies undergo marked atrophy. This fact alone suggests that the sympathetic system is not entirely dependent on this original chromaffin system for its energy—influence on its nutrition and metabolism.

Chromaffin Cells in Human Body.—The distribution of these chromaffin bodies derived from the anlage of the sympathetic chromaffin system is as follows:

1. Along the sympathetic gangliated trunk where they appear as rounded cellular masses partly embedded in the dorsal surface of the ganglia. They are readily seen in close apposition to the ganglia. At birth they may attain a diameter of 1 to 1.5 mm. and as many as seven of these bodies are frequently seen in association with one sympathetic ganglion.

2. They occur in all the larger sympathetic plexuses. One is the well-known carotid body, which lies at the bifurcation of the common carotid artery and is in close relation to the carotid plexus. The largest of these structures are found in the abdominal sympathetic plexus and are variously termed aortic chromaffin bodies, organ of Zuckerkandl, and paraganglia of Cohn. These generally occur on either side of the inferior mesenteric artery, ventral to the aorta and median to the metanephros. They are composed of chords of chromaffin cells bound within capsules. They are as a rule 6 to 12 mm. long and consequently are readily seen in gross dissection.

3. Smaller chromaffin bodies and individual cells are seen in the various sympathetic plexuses of the abdomen and pelvis. The individual cells may be found also in the terminal plexuses, for they have been described in the kidney, prostate, epididymis, paradidymis, paroöphoron, ovary, and pacinian corpuscles.

The chromaffin bodies as a rule reach the maximum of development during fetal life. After birth they degenerate, but do not entirely

disappear. Exception to this statement is seen in the chromaffin cells of the celiac axis which for the most part congregate on either side to form the medulla of the suprarenal gland. The cortex of this organ is derived from coelomic endothelium. Consequently this gland has a twofold origin, twofold structure, and we may infer a double function.

Function of Chromaffin System.—It has been demonstrated by Beidl and Wiesel that chromaffin cells in their unaltered antenatal condition possess an internal secretion much similar in action to that of adrenalin. Extracts were made from the aortic bodies and it was found on injection that the chief physiologic action was manifested in the contraction of smooth muscle fiber and the raising of blood pressure. Whether this contraction was due to stimulation of the sympathetic nerve endings, the direct stimulation of smooth muscle, or to an action dependent on the presence of an interneural plate, is not stated.

In the adult human the medulla of the suprarenal gland contains practically all that remains of the original chromaffin system—that which develops from the anlage of the sympathetic nervous system. Only traces are found in the carotid body, minute persisting aortic bodies, and the coccygeal body—Stoerck, however, denies the presence of chromophil cells here.

Suprarenals.—This organ is composed of two distinct structures, which, in some of the lower vertebrates, selachians, are two separate and distinct organs—the interrenal gland, which corresponds to the cortical substance in man, and the suprarenal gland. In man the cortical substance develops from the coelomic endothelium and traces of it are seen in the embryo of 6 mm. (Soulie). The medullary substance is composed for the most part of chromaffin cells of sympathochromaffin origin, which migrate into the cortical substance later on—19 mm. (Soulie). Thus the two portions of the suprarenal gland are widely separated so far as the ontogenesis is concerned.

As the medullary portion is composed of chromaffin cells, the function is in many respects similar to that of these cells and is concerned with the vascular system and its tonicity. Adrenalin is the active substance secreted by this medullary portion. However, both the cortical and medullary substance are so closely intermingled that it is impossible to differentiate between the functions of each. That adrenalin may be altered by an admixture with secretion from the cortical substance is probable and consequently it may differ in some respects from the secretion of pure chromaffin cells. For example the primitive sympathochromaffin cell secretion apparently may stimulate smooth muscle directly while the interpo-

sition of a myoneural plate appears essential before adrenalin can act.

Suprarenal extract, which of course includes the secretion of both portions of the gland, on injection, produces a marked rise of blood pressure. There is a contraction of the smooth muscle fibers of the vascular walls in general. The vessels of the brain and lungs seem less affected while the coronary vessels are said to be relaxed. The heart is stimulated. Although it beats slowly as a result of the stimulation of the vagi, the beats are strong. With the vagi cut the beats are rapid. Adrenalin causes contraction of the smooth muscles of the uterus, vas deferens and seminal vesicles, and inhibition of the contractions of the stomach, intestines, gallbladder, and urinary bladder. The pupils are dilated. According to Langley it stimulates secretion of the lacrimal and salivary glands. Glycosuria may result from the injection of adrenalin and the coagulation time of the blood is reduced to one-half or one-third. Temporary improvement in response to stimulation of fatigued muscle is obtained after the action of epinephrin. In fact it acts similarly to the stimulation of the sympathetic nervous system and apparently acts directly on the interneuromuscular plate. It does not stimulate the muscle fibers directly, nor does it act directly on the sympathetic nerve endings.

From our brief phylogenetic and ontogenetic considerations of the sympathochromaffin system it was suggested that this system may be a retrogressive one and that the ductless glands and sympathetic nervous system are assuming the function it once held. We found that the medullary portion of the suprarenal in adults represents practically all that remains of a very extensive chromaffin system, which extensively prevails in lower vertebrates and early fetal life. Is this diminutive remnant essential to life? Does physiological study bear us out in this conception?

True, the suprarenal gland is essential to life, for its complete removal results in asthenia and rapid death. In all likelihood, however, this essentialness is due to the cortical substance. Just what importance can be attributed to the medullary secretion remains within the realm of speculation. We have no conclusive evidence that it is essential to life. The following facts seem to favor the view that the medullary secretion is not vitally essential:

The chromaffin secretion, adrenalin, cannot be detected in the blood under normal conditions. There is no proof that it exists in the blood either in health or disease. It may be detected in the suprarenal veins after massage or electrical stimulation of the splanchnics. After strong emotions, excitement, or irritations of sensory nerves, the quantity of

adrenalin in the gland is reduced. This is not true, however, if the splanchnics are cut. According to Cannon the secretion of adrenalin is an emergency function and not continuous. Stewart is inclined to this view. That the sympathetic nervous system or its myoneural plate is not dependent on a continuous flow of adrenalin for a necessary excitement has been shown by Hoskins, for after ligation of the adrenals, the excitability of the vasomotors is not diminished.

After all, then, there is no direct physiological evidence against the hypothesis that the secretion derived solely from the sympathochromaffin system is not vitally essential and that this system is a stage of phylogenetic degeneration and the functions once held by it are being assumed by the other ductless glands. Of course our evidence is not sufficient to claim that such is the case. I have been informed that the medulla of the suprarenal has been completely destroyed without any recognizable effects on the animal, but that the untimely death of the investigator prevented publication of this observation. If such be true, however, it sustains the hypothesis.

DUCTLESS GLANDS

So far in this discussion, we have concerned ourselves with the primitive chromaffin system of sympathochromaffin origin. Another ontogenetic type of chromaffin cells (?) is found in connection with certain ductless glands—hypophysis (?), thyroid (?), parathyroid (?). These cells develop in connection with the other cells of the ductless glands from ectodermal or endodermal epithelial diverticula, and consequently are far removed from the sympathochromaffin system so far as the ontogenesis is concerned. It is also true that the so-called chromophilic cells of the ductless glands do not give a distinct and pronounced reaction with chromic acid or salts, as is the case with the primitive chromaffin cells. In fact it is doubtful that such a term should be used in connection with any cells of the ductless glands. Take for example the well-known chromophil cells of the hypophysis, to which a chromophil reaction has been ascribed by some. These show no greater affinity for chromic acid than do many other cells in various tissues. It is the indiscriminate use of this term that leads many to believe that the chromaffin system and ductless glands are more or less synonymous. Probably the terms chromophil and chromaphil as applied to cells are responsible for much of the confusion. The former refers to any deeply staining cell, while the latter refers to cells which show a pronounced affinity for chromic acid or its salts. However, many cells are present

in the various ductless glands, such as chromophil cells of the hypophysis; cells similar to these in the thyroid gland of the opossum; parathyroid, which Prenant claims is similar in structure and appearance to the carotid gland; brown pigment cells in the zona reticularis of the suprarenal cortex, etc., to which an affinity for chromic acid has been ascribed. So faint are the reactions, however, of these various cells that it is doubtful whether they are chromaffin cells at all.

There is no evidence that these faintly reacting or pseudochromaffin cells are concerned whatsoever in smooth muscle contraction, as is true in the case of the sympathochromaffin system. In the hypophysis, for example, the chromaphil cells, to which a chromaffin reaction has been ascribed by some, are located in the anterior lobe only, while it is the cells of the intermediate lobe which secrete the pressor substance.

Among the various functions that have already been ascribed to the ductless glands, some at least—hypophysis, thyroid (?), parathyroid (?), cortex of suprarenal (?), pancreas (?)—perform the function already considered in connection with the chromaffin system. Whether the ductless glands—some or one at least—are assuming or have taken over this function of the primitive chromaffin system, which seems to be retrogressive, cannot be positively determined. That the hypophysis, however, performs this function or a very similar one is assured and strongly suggests that this ductless gland has assumed the function of a now retrogressive organ. There are suggestions both clinical and experimental, that the other ductless glands may be concerned in this function.

We shall now briefly consider these glands.

Hypophysis.—The physiologically active portions of this gland—the anterior lobe and intermediate part—are derived from the ectodermal epithelium of the pharynx. It, or apparently a homologous organ, is found practically throughout the vertebrate series. Two types of cells are seen in the anterior lobe, the so-called chromophil and chromophobe cells. The intermediate lobe possesses only one cell type. Anterior lobe extract when injected into an animal shows no demonstrable specific physiologic action. On the other hand, complete removal of the anterior lobe is followed by death. That it plays a very important rôle in the body metabolism, processes of growth, especially of the skeleton, is manifested both experimentally and clinically. Giantism and acromegaly are diseases generally associated with hyperpituitarism of the anterior lobe while hypopituitarism of this lobe is generally recognized in the clinical symptoms of dystrophia adiposa genitalis in youth and perhaps Dercum's disease

in adults. Each of the above disorders may be associated with tumors or other pathologic processes of the hypophysis. Naturally such lesions may involve the intermediate lobe, and as a consequence a patient may show symptoms of either hyperpituitarism or hypopituitarism or both, of the intermediate lobe. For such cases the term dyspituitarism is preferable. Frequently these diseases are reported, especially acromegaly, in which no demonstrable lesions of the hypophysis have been found. Whether ultra microscopic cellular changes are present in the gland under these conditions or other pathologically involved ductless glands are responsible, is a question. That the anterior lobe secretes other substances of more urgent direct need to the body than that concerned in general metabolism is suggested in view of the fact that death rapidly follows its total extirpation.

Experimental partial or complete ablation of the intermediate portion, which is firmly adherent to the pars nervosa, the two together forming the posterior lobe, results in an increased tolerance for sugar, and the processes in the body which convert sugar into fat seem to be stimulated. Consequently extreme adiposity is a tendency. In young animals so treated the sexual organs fail to develop. Other conditions following extirpation of the posterior lobe are loss of hair, dry skin, polyuria, subnormal temperature and pulse.

Intravenous or subcutaneous injections of the posterior lobe extract, pituitrin (hyperpituitarism), lowers the carbohydrate tolerance, even to a glycosuria, and has an effect on the cardiovascular system in many respects similar to the extract from the chromaffin system, adrenalin. The blood pressure is raised; smooth muscle of the wall is stimulated to contractions; the heart is stimulated; the pupil is dilated; the musculatures of the uterus, vesical and gastrointestinal tract are stimulated. It differs, however, in the fact that it acts directly on the muscle fiber while adrenalin acts on the myoneural plate. Other differences from the latter are as follows: (1) There may be a primary depressor effect; (2) there is a longer pressor effect; (3) the pulse is slow after injection of atropin and cutting of vagi; (4) a second injection, shortly after the first, is ineffective in raising blood pressure; (5) constriction of the coronary vessels occurs; (6) dilation of the renal vessels occurs; (7) a diuresis has been reported as a consequence of direct stimulation of the renal epithelium. Whether this is due to dilatation of the renal vessels or direct stimulation of renal cells there are differences of opinion. That pituitrin stimulates the activity of the mammary gland (galactagogue) has also been disputed.

It will be seen that in comparing the general action of pituitrin and adrenalin there is much in common. Both are concerned in carbohydrate metabolism, both function in the tonicity of smooth muscle, pituitrin acting directly on the muscle fiber, while adrenalin acts in connection with the sympathetic nervous system. The latter fact explains why when adrenalin is used inhibition of contraction of certain smooth muscles occurs, such as those of the intestinal tract. Stimulation of the sympathetic nervous system produces the same effect.

The hypophysis then is an organ which apparently duplicates to a great extent the function of the sympathochromaffin system. Whether the last remnant of the latter, medulla of the suprarenal, is essential to life may be questioned in view of the close similarity of function of the hypophysis. Is the hypophysis gradually assuming a function once held by the sympathochromaffin system? Are the cells in the intermediate lobe, evidently of one type so far as the histological characteristics are concerned, monovalent or polyvalent in function?

Pineal Gland.—In recent literature much attention has been given to the pineal body, which projects from the roof of the third ventricle. Embryologically it is an outgrowth from the vesicle of the brain. Phylogenetically it represents a vestigial eye, which reached a complete development way back in the *Stegocephala* of the Permian age. In early human life the gland contains certain epithelial-like cells. Inoculation with extract from this gland lowers blood pressure. This, however, is not specific, as extracts from other organs may have the same effect.

Pineal tumors appearing in prepuberal life have been reported associated with early sexual development, enlarged sex organs, pubic hairs, precocious mental development, general body overgrowth. According to these reports, then, the pineal gland acts along with the thymus and cortex of suprarenal in inhibiting sexual development. McCord, on the other hand, came to the conclusion that feeding pineal extract to young animals causes rapid body growth and precocity of mental and sexual development. The gland has been reported included in a general disorder of the glands of internal secretion—polyglandular syndrome. The fact that the pineal body is a vestigial structure and the numerous conflicting reports regarding its function should make one very cautious in ascribing to it any particular function.

The thyroid, parathyroids, and thymus develop in close proximity to each other from the pharyngeal pouches.

Thyroid.—Regarding the structure, function, and clinical significance of the thyroid gland little need be stated here, as these are so well known. Its functions may be summarized as follows: No direct physiological action is observed when the extract is injected intravenously. There may be a fall in blood pressure. Repeated injections are accompanied by an increased excretion of nitrogen, carbon dioxide, and phosphoric acid and the intake of oxygen. Thus the thyroid is concerned with metabolism of proteids. Carnivora are apparently in greater need of the gland than are the herbivora. This is probably due to the more pronounced nitrogenous diet of the former.

When removed from the goat (hypothyroidism), the animal survives indefinitely, fails to develop normally, shows muscular weakness, waste of tissue, and its temperature may be subnormal. When removed from the monkey, symptoms much similar to myxedema, acquired hypothyroidism are seen. The symptoms of the latter condition, as is well known, are subcutaneous mucoid hyperplasia, falling out of hair, accumulations of pads of fat, muscular waste, slow movements, mental deterioration, stupidity, slow reaction. Congenital hypothyroidism is seen in the cretin.

Hyperthyroidism, which is associated with a decrease of iodine and a hyperplasia of epithelial cells, is manifested as a rule in the well-known symptoms of exophthalmic goiter, enlarged thyroid, tremor, tachycardia and exophthalmos. Experimental hyperthyroidism (excessive thyroid extract injections) produces symptoms which correspond to clinical symptoms, tachycardia, tremor, sweating, headache, and prostration. Cases are reported where even exophthalmos has been produced by injection of the extract. Pigmentation of the skin is occasionally seen. Mention is made of this in particular because of its occurrence in disorders of other ductless glands, such as Addison's disease and bronze diabetes. Disturbances of the autonomic nervous system with vagotonia, sympathicotonia, as conceived by Eppinger, Hess, Barker, and others, are interesting in connection with the symptoms of exophthalmic goiter.

Of great significance is the recent work of Bensley in connection with the thyroid gland of the opossum. He has shown that in addition to the regular single layer of cuboidal cells that form the lumina of the colloid tubules, a second type of cell is present, ovoid in outline, "parietal in position with reference to the follicles, filled with fine eosinophil granules, which gave them a striking resemblance to the oxyphil cells of the anterior lobe of the hypophysis." The regular epithelium contains numerous large needle-shaped crystals. When these

animals are kept in captivity for some time, the regular epithelium undergoes marked hyperplasia, to such an extent that the lumina of the thyroid tubules as well as the colloid substance are very much diminished. The crystals disappear. Those kept in still longer captivity show new secretion granules. In fact the whole picture simulates that of exophthalmic goiter, for Bensley had previously found that these new secretion granules are present in hyperplastic human thyroid. Regarding the significance of these granules Bensley states, "Whether these granules represent an incompletely elaborated colloid, or another normal secretion, I cannot fully determine." According to him, opossums which had been in captivity all winter and whose thyroid glands possessed high degrees of hyperplasia showed marked colloid involution after treatment with syrup of iodid of iron. In animals thus treated for from seventeen to twenty-four days reformation of follicles had occurred or were in the process of regeneration. In fact every cell practically of the regular epithelium contained droplets of colloid substance. Bensley's observation confirms those of Marine. According to Marine exophthalmic goiter in man has the same effects as any thyroid gland deprived of its iodine. Both men have shown that on feeding iodine in some form a reversion of the gland to its normal histological picture occurs. After all, these observations have a great clinical significance. Perhaps there were virtues in the original treatment of various goiters with iodine. It will be indeed interesting to know the results of iodine treatment in exophthalmic goiter.

Regarding the significance of the ovoid granule cells in the opossum, Bensley states: "That the cells in question are special internal secreting cells, there can be little doubt, but what their homologues in other vertebrates may be, remains wholly obscure. The possibility that they may represent a dispersed parathyroid has been considered, but no proof of this has been obtained."

I have not observed any distinct chromaffin reaction on the part of these cells. In fact the so-called chromophil cells of the hypophysis do not show marked affinity for chromic acid or its salts. Dr. Matthews and I observed no increase of blood pressure when extracts of these glands of the opossum were injected into the dog and normal opossum. The same, however, is true of extracts of the anterior lobe of the hypophysis in general where similar cells occur. Hence the oxyphilic cells of the thyroid of opossum and the oxyphilic cells of the anterior lobe of the hypophysis in general which are strikingly alike anatomically are not dissimilar in this one physiological respect. Complete extirpation of the thyroid glands in two

opossums in our laboratory has not been accompanied with any demonstrable abnormal effects.

Parathyroids.—In man these are four in number. The upper pair are derived from the fourth pharyngeal pouches and the lower pair from the third. The parathyroid gland has a wide distribution in vertebrates. It consists of chords of polygonal epithelial cells. It is physiologically independent of the thyroid gland.

Complete extirpation results in death of all animals in from one to ten days. Death is preceded by a train of symptoms the chief of which is tetany. Formerly this tetany was ascribed to the removal of the thyroid gland, and it is in connection with the latter that it has its chief practical significance. Increased pulse rate and rate of inspiration, fever, profuse salivation and loss of tonicity of portions of the gastro-intestinal tract are some of the other symptoms manifested on removal of the parathyroids. Just what the significance of the tetany is we do not wholly understand. That it is associated with profound constitutional disturbances is evident. It may be that the parathyroids in some manner hamper or block irritability of the sympathetic nervous system for the tetany and other symptoms which follow parathyroidectomy suggest excessive sympathetic nervous activity. If this be true the parathyroids act as counterbalance to the chromaffin system.

Thymus.—This organ originates from two tubular diverticula of the pharyngeal pouches which later meet in the median line. The gland is found in most vertebrates. In man it reaches its maximum development at puberty, when it weighs in the neighborhood of 37 grams (Hammar). Earlier investigators, however, claimed that it began to atrophy at birth. Differences of opinion exist in respect to the so-called lymph cells that form the chief bulk of the gland. Some hold that Hassal's corpuscles, minute rounded bodies found in the field of lymph cells, are the remnants of the original epithelial structures and that the lymph cells are the results of infiltration into the gland concurrent with the atrophy of the original epithelium. On the other hand, evidence seems to favor the view that these lymphoid cells are not lymph cells but true epithelial cells, which are so altered as to simulate lymph cells. In view of the apparently great importance of the thymus in body functions the latter view appears much more tenable. And if such be the case a particular function might be ascribed to the thymic corpuscles, as, for example, the islets of Langerhans in the pancreas have a function widely separated from the gland tissue in which they are imbedded.

No direct specific physiological action has been observed from the injection of thymic extract. That the gland has an important function is assured from its size in fetal and early antenatal life and its wide distribution in the vertebrate series. Certainly it is closely related to the complete development of the sex organs. Its persistency after puberty may be associated with continued infantilism. In castrated bulls it persists while in breeding bulls and repeatedly pregnant heifers it undergoes rapid atrophy. Early removal of the thymus accelerates sexual development. From these observations it is readily seen that the thymus acts in retarding the development of sex glands.

Large persisting thymus glands are sometimes associated with Graves' disease, Addison's disease, acromegaly, and status lymphaticus, thus showing clinical relations to other ductless glands. So far as the sex glands are concerned it appears that the hypophysis and thymus counteract each other in the regulation of the development of sex glands. Disturbances of the hypophysis are associated with atrophy of sex glands while atrophy of the thymus is apparently essential to complete sexual development.

Islets of Langerhans.—Islets of Langerhans have their ontogenetic origin from the endodermal epithelium in connection with that which forms the pancreas. Like other glands of internal secretion, they have a wide distribution among vertebrates.

Total extirpation of the pancreas, especially in carnivora, is followed by death. That death is not due to loss of pancreatic tissue in general is shown by the fact that an animal survives indefinitely with a pancreatic fistula, disturbances in metabolism of course are associated with the latter. Extirpation of the pancreas is characterized by polyuria, polydipsia, polyphagia, and intense hunger contractions. Similar conditions may result from extreme chronic interstitial pancreatitis, where the islets of Langerhans are involved.

That two distinct types of cells are present in these islets, as shown by Lane and Bensley, alpha and beta cells, should interest physiologists, pathologists and clinicians. In all probability each type has its specific function and suggest that the islets have at least two distinct and independent functions. To ascertain which type is concerned with a particular function will require the cooperation of pathologists, clinicians, physiologists, and anatomists. Deficiency of pancreas with its associated abnormal conditions, glycosuria, polyuria, polydipsia, suggests that the islets have a function strikingly similar to the pars intermedia of the posterior lobe of the hypophysis. The pigmentation and muscular weakness as seen in

bronze diabetes may be compared to Addison's disease and suggest some relationship to the cortex of the suprarenals.

No positive chromaffin cells have been found in these islets. It is interesting that in bronze diabetes in addition to severe diabetes, muscular weakness, and a large liver, a pigmentation of the skin may occur. Similar pigmentations may occur in Addison's disease and in exophthalmic goiter.

Ductless Glands of Endothelial and Mesothelial Origin.—These include the cortical substance of the suprarenals, the testes and ovaries. In this group chromaffin cells, usually appearing singly, are found. There is no evidence, however, that they are concerned in giving to the glands their physiological characteristics, but have only migrated to these organs along with the sympathetic nervous system.

The cortex of the suprarenal has its origin from the coelomic endothelium and consequently must be considered as an entirely different organ from the medulla—sympathochromaffin system. That it is the cortex which renders the suprarenal a vital organ is demonstrable in the fact that after total extirpation of the suprarenal, death ensues in spite of repeated injections of adrenalin. Just what important function it plays is not known. Cholin has been extracted from it, and many hold that as this substance counteracts the action of adrenalin the cortex consequently counterbalances the action of adrenalin. The cortex may neutralize certain metabolic toxins.

Addison's disease with its muscular weakness, remarkably feeble action of the heart, gastrointestinal irritation, anemia, languor, debility, and pigmentation of skin, is the result of pathological changes in the suprarenal. Just which of these symptoms may be attributed to the cortex and which to the medulla cannot be stated. It appears that pigmentation is in some way related to the cortex, while the feeble action of the heart may be due to the involvement of the medulla. If the latter be true, the medulla, a remnant of the primitive chromaffin system, may be essential to life and consequently our hypothesis that it is a phylogenetic retrogressive organ not necessary to vital function is not supported by this one symptom in Addison's disease. Again, hypertrophy of the aortic and sympathetic chromaffin bodies have been associated with atrophic or pathological changes in the medullary substance of both suprarenals. This condition, if true, does not favor the hypothesis. More evidence is needed.

It is difficult, of course, to draw a line between the functions of the cortex and medulla. That the gland, probably the cortex, is associated in some way with the sex glands is shown in certain tumors of the suprarenal that are associ-

ated with remarkable precocious development of sexual organs. Hyperplasia of the cortex, on the other hand, has been observed in connection with defective development of sex glands. Thus the cortex is not unlike the thymus in this respect. Hutchison's syndrome, adrenal tumor, exophthalmos and cranial tumor, suggests the close interrelation of ductless glands.

Other cells of endothelial and mesothelial origin which function in internal secretion are as follows:

1. The interstitial cells of Leydig, which show no special affinity for chromic acid. The sexual male anatomical and physiological characteristics depend on these cells. They are especially prominent in such hybrids as the mule. On transplantation of the testes, these cells continue to flourish while those concerned in spermatogenesis atrophy. Steinach calls these cells the puberty gland of the male.

2. The female interstitial cells of the ovaries likewise form the puberty gland. When ovaries are transplanted into castrated males these interstitial cells grow and the body shows inhibition and atrophy of the male characteristics while certain female characteristics develop, such as enlargement of the mammary gland. That the testes and ovaries are in close physiological relation with other glands, such as the hypophysis, thymus and cortex of suprarenal, has been pointed out.

The following characteristics are fairly common for the ductless glands:

1. They continue to live and function after transplantation. Of course the body must be in need of such tissue in order to insure the success of the transplanted tissue.

2. The cells are capable of a high degree of compensatory hypertrophy.

3. An interrelational hypertrophy is fairly common, i. e., disturbances of hypophysis are frequently associated with hyperplasia of the thyroid gland.

4. All are apparently concerned in the general metabolism of the body. Duplication of function exists among them.

5. A close physiological relationship exists between them.

6. Clinical disturbances may involve several glands at the same time, giving rise to a polyglandular syndrome.

7. Insufficiencies of the secretions of ductless glands as manifested experimentally and clinically, are in many respects fundamentally similar; for example, hypopituitarism, myxedema, Addison's disease. The same is true in cases of excess secretions.

8. All are in close relation to the sympathetic nervous system.

SOME FACTORS IN THE REMOVAL OF TONSILS*

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Outline.—I present in this paper in summarized form the development, anatomy and function-theories of the tonsil; the indications for and against operation; suggestions in regard to anesthesia and hemorrhage; a summary of the methods in use by members of this society in the removal of tonsils and the opinions of these surgeons and voice teachers here in Kansas City as to the effect on the voice of the removal of the tonsils. The adenoid will not be considered.

DEVELOPMENT AND ANATOMY

At birth the tonsil is about $\frac{3}{8}$ inch long and covered by the plica (triangular fold). The plica should have disappeared and crypts be well developed by the second year. An average normal tonsil may be said to have reached maturity at the sixth or seventh year and to have entirely disappeared by the twelfth or fifteenth year.

The anatomical points are the blood supply, the adjacent throat muscles, the capsule, the plica and the crypts. The vessels in the lower half of the tonsil are the ones that are most likely to cause troublesome hemorrhage. Nearly all operators now endeavor not to mutilate the throat muscles but to remove the tonsil and its capsule with the plica which Fetterolf¹ says is simply a continuation of the capsule. The crypts penetrate nearly to the capsule and one cannot be sure that he has removed all crypts unless the capsule has been removed too.

FUNCTION THEORIES

1. None different from other lymphatic glands.

2. A mucus-producing lubricator for the throat.

3. A laboratory for the production of protection bodies in infancy and early childhood.

4. During infancy acts as a governor for the secretions of ductless glands regulating the ratio of the various blood cells to each other.

5. That it is concerned in the development of the bones of the body.

6. That it is a fulcrum for the throat muscles in speaking and singing.

* Read before the Eye-Throat Section of the Jackson County Medical Society, Kansas City, Mo., March 25, 1915, and before the General Section, May 25, 1915.

1. Amer. Jour. Med. Sc., July, 1912.

INDICATIONS FOR OPERATION (BECK²)*A. Local Conditions*

1. Repeated acute attacks of tonsillitis.
2. Repeated attacks of quinsy.
- 3, 4, 5. Tuberculosis, syphilis and cancer.
6. Acute infections (diphtheria, scarlet fever).

B. Conditions Arising from Proximity

1. Persistent pharyngitis.
2. Eustachian tube catarrh with middle ear disease.
3. Enlarged neck glands.
4. Lung apex tuberculosis.
5. Perpetuating bronchitis in children.

C. Systemic Conditions

1. Rheumatism and complications (heart disease).
2. Chronic septicemia and secondary anemia.
3. Gastro-intestinal disturbances.
4. Kidney and liver disease.
5. Special organs (episcleritis and phlyctenular conjunctivitis).
6. Chorea in children (Rosenheim³).

INDICATIONS AGAINST OPERATION (MY OWN)

1. Age of less than 5 or 6.
2. Recent local or systemic infections.
3. History of severe anemia or unusual bleeding.
4. Heart disease without compensation.
5. Status lymphaticus.

SUGGESTIONS FOR ANESTHESIA

Local.—As between cocaine, quinin and novocain, the last is far the best in my opinion. Any of the three should be combined with adrenalin and injected deeply. Only use cocaine for application before the injection.

General.—Should always be in a hospital. One half hour before operation a hypodermic injection of morphin, $\frac{1}{8}$ to $\frac{1}{4}$ grain, with atropin is given. Ether is always used, administered continuously with a hollow mouth gag. I do not use the upright position.

Heart Disease.—Shurly⁴ reports a series of two hundred cases of tonsil operations where the anesthetizer found *before operation* that 20 per cent. had heart disease. No deaths are reported.

Status Lymphaticus.—Osler⁵ says: "It is probable that a large proportion of deaths occurring in surgical anesthesia are due to this condition. The fatal event may take place at any stage of anesthesia. Chloroform is usu-

ally regarded as the more dangerous anesthetic in these cases. The child may appear to be in perfect health."

Roberts⁶ reports a number of deaths under anesthesia in throat operations cited by Kolisko, Blumer, Olmacher, McCardie and four cited by Bullard and himself (occurring in the neighborhood of Los Angeles) where a few were definitely proved to be cases of status lymphaticus.

Personally, in eighteen years' work, I have seen but one case in which I suspected that this condition existed, and in this, death was narrowly averted by artificial respiration and volatile hypodermics. This occurred with chloroform in an adenoid operation on a boy of 10 years.

Hurd⁷ cites fifteen thousand tonsil and adenoid operations in two New York Hospitals with six deaths; status lymphaticus causing three (probably four) but hemophilia none at all.

SUGGESTIONS FOR HEMORRHAGE

Before Operation.—Talquist blood examination for hemoglobin and clotting in suspicious cases. Cohen⁸ says, "There are but few authentic cases of tonsillar hemorrhage where real proof of hemophilia (bleeders' disease) could be produced." (See also Hurd reference under status lymphaticus.) Wilson⁹ states that the administration of calcium lactate 10 to 15 grains three times a day for two or three days before operation will reduce the normal blood clotting time from seven minutes to one minute. W. K. Trimble (Kansas University) suggests $\frac{1}{4}$ to $\frac{1}{2}$ grain thyroid extract combined with the lactate.

During Operation.—Securing a clear field by continuous vapor anesthetic, blood suction pump and electric headlight. Twisting or ligating spurters. Pressure with tannin (or gelatin) on sponge or metal plugger after each tonsil is out.

After Operation.—Patient to keep quiet, preferably in bed. Same measures as in paragraph next above. Continuous pressure with clamp. Injection of fresh rabbit or horse serum or antitoxin 10 to 20 c.c. If the patient is frightened or unmanageable, hypodermic injection of morphin $\frac{1}{4}$ grain. Ligation of external carotid. Suturing the pillars is not recommended.

POSTOPERATIVE EFFECT ON SINGERS' VOICES

Sheedy¹⁰ reports a series of 100 tonsil operations done mostly in clinics in various ways and examined three to ten months afterward.

6. Laryngoscope, February, 1907.

7. Trans. Sec. Laryngology, Otology and Rhinology, American Medical Association, 1912.

8. Trans. Sec. Laryngology, Otology and Rhinology, American Medical Association, 1909.

9. Trans. Sec. Laryngology, Otology and Rhinology, American Medical Association, 1914.

10. Trans. Sec. Laryngology, Otology and Rhinology, American Medical Association, 1913.

2. Trans. Sec. Laryngology, Otology and Rhinology, American Medical Association, 1910.

3. Bulletin Johns Hopkins Hosp., November, 1908.

4. Trans. Sec. Laryngology, Otology and Rhinology, American Medical Association, 1910.

5. Vol. IV Modern Medicine, 1908.

Four had almost lost the singing voice, in seventy there was no change and in twenty-six there was improvement of the voice. Pyfer, in discussing this paper, attributed the abnormal results to tearing of the throat muscles by blunt dissection in old inflammatory scar tissue, where a *sharp* instrument would have done less damage.

Faulkner,¹¹ in a book of 381 pages, presents the results of his investigations, mainly by correspondence with throat specialists and voice teachers. His "Six Medical Questions" on account of useless repetition amount to only three.

1. What is the function of the faucial tonsil? Fifty per cent. of the answers were that the tonsil had no function; about 40 per cent. that if it had any, it was in early childhood only; the other 10 per cent. thought it had some function in later life but most of them were not sure what it was themselves.

2. What voice or other effects have you observed as being directly due to the removal of tonsils? The great majority answered that if the operation were properly done, the voice would probably be improved rather than injured.

3. Would you, as a rule, advise the removal of the *normal* tonsil? The answers were largely another question, "Why would any surgeon remove any *normal* tonsil?"

His "Six Voice Questions" also on account of useless repetition could be reduced to three.

1. How and in what manner are the normal tonsils of use to singers? Only a few of the teachers seemed to think that it had a singing function and of these few, scarcely any two agreed on what that might be.

2. Do you personally know of an instance in which a singer's voice was either impaired or improved by the removal of normal tonsils?

3. Would you, as a rule, advise the removal of the normal tonsils in singers?

The answers to the second and third questions are entirely misleading because they comprehend removing a *normal* tonsil and I do not believe any surgeon ever removes a *normal* tonsil.

He shows his extreme prejudice when he says (page 340): "Enucleation of the faucial tonsils is more dangerous than amputation of the leg at the hip joint; more fatal than removal of the appendix."

Barnes¹² voices the attitude of the great majority of the throat surgeons of this country when he says, "If no undue injury is done to the throat muscles, the singing voice is not injured by the radical removal of tonsils. On the contrary, a marked improvement often results."

In order to get the views of some Kansas City vocal teachers I personally interviewed the

following: Dean, Farrell, Hunt, Lawless, Miller, Schultz, Schutte and Springer, also P. K. Dillenbeck, professor of elocution in the Central High School. None of them had seen bad results to the voice from tonsil removal and some of them reported numerous cases where the singing or speaking voice had been vastly improved by the removal of enlarged or diseased tonsils.

Along this same line I questioned twenty-one of the throat specialists belonging to this section and eighteen of them thought that a voice would be improved rather than injured by removal of enlarged or diseased tonsils.

METHODS OF REMOVAL

I have personally interviewed twenty-one of the throat specialists of the Jackson County Medical Society with the following results: For anesthetic, seventeen prefer general and four local anesthesia. For a local anesthetic nine prefer cocain, eight novocain; quinin, eucapren, alypin and anesthaen, one each. For a general anesthetic nineteen prefer ether, one chloroform and one begins and sometimes finishes with ethyl chlorid. For cases where removal is advisable but a minimum age limit might act as a deterrent force, two refuse to consider any, four place it at 3 years, two at 4 years, four at 5 years, seven at 6 years, one at 12 years and one at 15 years.

For actual operative method fourteen use the dissection and snare; one dissection and tonsillotome; six the Sluder tonsillotome method as follows: one uses Sluder in 95 per cent. of all operations, two in 80 per cent., one in 75 per cent., one in 33 per cent., and one uses Beck-Sluder in 75 per cent. Fifteen out of twenty-one men are not using the Sluder, either because they have never done so or because, after trying it, they became dissatisfied with it and quit. The Sluder operation was published five years ago for the first time in THE JOURNAL of the Missouri State Medical Association.

1221 Rialto Building.

AN ACCURATE AND RAPID ESTIMATION OF SUGAR IN URINE

E. B. KNERR, M.D.
KANSAS CITY, MO.

An accurate and rapid estimation of the sugar in urine may be made in the following manner. The solutions required are:

1. The usual Fehling's solution in which 1 c.c. reduces .005 gm. glucose.

2. A standardized solution of potassium cyanid equivalent in strength per c.c. to 2 c.c. Fehling's solution (or = 1 c.c. of the copper sulphate portion). To make this standardized

11. Tonsils and the Voice, 1913.

12. The Tonsils, 1914.

solution dissolve about 30 gm. of pure lump KCN in 500 c.c. distilled water and titrate against 5 c.c. of the Fehling CuSO_4 solution, rendered strongly alkaline with NH_4OH . According to the result dilute the KCN solution until it is equal in strength per c.c. to the copper solution. As the end reaction approaches, the blue ammoniacal copper solution turns suddenly violet, and a drop more of the KCN will decolorize it. Read the burette and make the calculation for proper dilution.

3. Stronger ammonium hydrate.

4. Distilled water.

Apparatus needed: A pipette graduated to .1 c.c., burette, two beakers or flasks, a burner.

Procedure: Place exactly 10 c.c. Fehling's solution in a beaker, add about 20 c.c. distilled water, then 1 c.c. of the urine to be examined and bring very slowly to boiling. Boil a minute or two. The presence and amount of sugar will be indicated by the precipitate of copper, adherent to the walls of the beaker if slight, spongy brown if considerable. Allow contents of beaker to settle a minute, then decant off the clear blue liquid into the second beaker or flask. Do not wash. The minute liquid adherent to the beaker is so slight compared to the whole volume as to be negligible. The precipitated copper represents the amount of sugar per c.c. of the urine. This may be dissolved in nitric acid, the solution rendered alkaline with NH_4OH and titrated with the KCN solution. But the result may be obtained quicker by titrating the unreduced copper sulphate solution and calculating the difference. To do this render the decanted solution strongly ammoniacal by adding about 5 c.c. strong NH_4OH and titrate at once with the standardized KCN solution. The difference between the burette reading of cubic centimeters of KCN solution used and 5 is the percentage of sugar as dextrose in the urine.

Example: 10 c.c. Fehling's solution = 5 c.c. Fehling CuSO_4 = .05 gm. glucose = 5 c.c. standardized KCN solution = .05 gm. glucose.

One c.c. urine was taken. Suppose on titration 3.3 c.c. KCN were required to decolorize the undecomposed CuSO_4 decanted off, then $5 - 3.3 = 1.7$ c.c. CuSO_4 which was reduced by the sugar in the 1 c.c. urine taken, = .017 gm. glucose per c.c., or 1.7 gm. per 100 c.c., = 1.7 per cent. sugar.

An estimation of sugar in urine by this procedure may be made in five minutes. The KCN solution should be kept well stoppered, as it alters in strength if exposed to air. Its keeping qualities will be enhanced by adding a little KOH when making up the solution, before standardizing, of course. However, its strength should be tested from time to time and proper corrections calculated.

3338 Broadway.

THE TREATMENT OF INOPERABLE CANCER

A most interesting preliminary report devoted to a new treatment of malignant growths, by Silas P. Beebe, appeared in a recent issue of the *New York Medical Journal*. Dr. Beebe estimates that 75,000 persons die annually in the United States from some form of cancer, and that at least 80 per cent. of all persons suffering from malignant tumors eventually reach the inoperable or incurable stage.

It is with some degree of trepidation that Dr. Beebe ventures to put before the medical profession a new method of treatment for inoperable cancer, and hopes his action will be judged solely on the data presented in his clinical report.

Professor Beebe gives to Alexander Horovitz, Ph.D., an Austrian biologist and chemist, the credit of discovery; the technic and present development of this method having been evolved by Dr. S. P. Beebe and Dr. J. Wallace Beveridge.

Dr. Beebe, in reporting his investigation of the patients treated at first, as examined by him before any were admitted to the General Memorial Hospital, stated that some of the patients had large, open, ulcerated tumors which previously had been the seat of active infection, accompanied by the disagreeable odor associated with such a condition. Under this treatment these infections were markedly influenced and the odor almost entirely disappeared, which impressed him sufficiently to warrant the method being given a thorough trial at the General Memorial Hospital.

The therapeutic agent employed in this treatment is a complex one, and it is believed that it has not been heretofore employed in the treatment of cancer. Dr. Beebe and Dr. J. Wallace Beveridge, working in conjunction with Dr. Horovitz, after many months of clinical experimentation, have been able to use the product as an extract administered subcutaneously. In referring to these clinical experiments, Dr. Beebe says: "At the point of injection in normal tissues an active local reaction is produced; this reaction is evidenced by swelling, redness, heat and tenderness. Then follows a general leukocytosis with a relatively high lymphocytosis, some rise in temperature, and occasionally a chill of varying intensity and duration. Now, if the local area which receives the injection is examined microscopically, there are found all the characteristics of a moderately acute inflammatory reaction with a relatively large leukocytic infiltration. When such extracts were injected directly into a transplantable rat sarcoma, the characteristic reaction followed and was accompanied by a peculiar necrosis of the

tumor cells with complete regression. When the skin over the tumor, prior to the injection, is ulcerated, the affected area rapidly degenerates and a mass of necrotic tissue is discharged, followed by healing, while if the skin is not broken or ulcerated, the reaction following the injection produced a marked infiltration of serum and leukocytes, particularly around the borders of the tumor, the tumor itself was gradually absorbed, and there was an apparent complete restoration of normal cellular conditions."

Subcutaneous injections of this extract have to a considerable extent displaced the direct tumor injection, having the obvious advantage of permitting a more certain dose, of bringing this therapeutic agent directly in contact with the growing border of the malignant cells, and producing in the depths of the tumor rather than on its surface an intense reaction, which appears to be unfavorable for the continued growth of the tumor. When these injections were first begun in human subjects, they were always confined to the growth itself. More recently they have been given subcutaneously in the arm, and it has been interesting to note that when so given there has been observed fairly definite reactive responses in the growth; these reactions in the growth are evidenced by swelling, temporary increase in pain, followed a few hours later by a considerable relief from pain, and in some forms of tumor by softening of the growth and a gradual diminution in its size.

Dr. Beebe's paper contains a report of two groups of cases, the first under his personal observation at the General Memorial Hospital, in which Roentgen rays from a Coolidge tube formed a part of the treatment which was not so successful and satisfactory as in the second group of cases under the supervision of Dr. J. Wallace Beveridge at the Polyclinic Hospital. The latter group was treated entirely by hypodermic injection of the extract, no other therapeutic measures being used. The following two cases cited are taken from Dr. Beebe's preliminary report:

CASE 11.—Man, aged 50 years, had recurrent colloid carcinoma of the rectum. Kraske operation two years ago. In July recurrence became troublesome, and at the time of his admission to the hospital there was extensive involvement of the tissues in and about the rectum and including the base of the bladder. Patient had severe pain, great difficulty in defecating. It was impossible at the time of his admission to pass a rectal tube, and the bladder irritation was so severe as to cause almost constant tenesmus. Injections at the hospital were made directly into the growth. During his stay of six weeks in the hospital, sixteen injections were made; following the earlier ones there was marked reaction accompanied by rise of temperature and an occasional chill. Roentgen-ray examination revealed involvement of sacrum. Large broken-down masses of tumor were

discharged. Pain and irritation about the base of the bladder gradually diminished. The swelling and pain about the sacrum entirely disappeared, the tumor masses in the rectum were in part absorbed and in part broken down, and were discharged. At the end of six weeks the patient left the hospital, free from pain, with normal control of bladder. Patient was passing formed stools, the rectum admitted forefinger easily without pain, and tumor masses could not be felt. After leaving the hospital, the patient had a few injections in the arm. He continued to gain in weight and strength and his general condition continued to improve.

CASE 15.—Woman, aged 51 years, had a recurrent inoperable carcinoma of the breast. Recurrence involved the fifth and sixth rib at the lower point of the old scar. Mass about three inches in diameter, very hard, the surface red. Some exudate appeared at the apex of the growth. Patient had intense pain along the left arm and shoulder, including the left side of the neck. Left arm markedly edematous and painful to touch. Edema extended to the region above the clavicle. Patient had had Roentgen-ray treatment for a short time prior to admission to hospital without effect. Treatment was entirely by injection into the tumor and into the arm on the right side. At the time of her admission and previously, patient had temperature of 100 to 101 F., which finally became normal. During the period of twenty-six days at the hospital, patient received eighteen injections, two being in the right arm. After her discharge, patient continued to receive the injections at weekly intervals into the right arm. When the patient left the hospital the induration had entirely disappeared, edema in the arm and above the clavicle had been absorbed, and she had no pain. The central portion of the tumor mass was marked by a scab, about a quarter of an inch in diameter, representing a point of an old sinus through which most of the tumor mass had been discharged. After she left the hospital, this area entirely healed, the patient returned to work and was subsequently entirely well.

Professor Beebe, in summing up his observation, states: "In spite of the somewhat complex and unusual character of the remedy employed, the evidence warrants further use of this method of treatment. In judging the merit of a treatment for inoperable cancer, it is probably wise to discount such matters as the relief from pain and the improvement of the general physical condition, because, while these matters are of much concern to the patient, they are to a considerable degree subjective in character and may to some extent be expected to follow the employment of any new method which stimulates the patient with faith and hope." While Dr. Beebe has been interested in the treatment of cancer patients for a number of years, he has not heretofore seen such consistent improvement, of the character mentioned, follow in the type of patients cited by the use of other known remedies. If an actual diminution and regression in the bulk of malignant tissue is taken as a criterion by which to judge of the effect of this remedy, it is the writer's opinion that the evidence presented can lead to but one conclusion.

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EDITORIALS

SPECIAL MEETING OF THE JUDICIAL COUNCIL

OF THE MISSOURI STATE MEDICAL ASSOCIATION,
ST. LOUIS, JUNE 8, 1915

A special meeting of the Judicial Council was called to order by the chairman, Dr. Frank J. Lutz, in the auditorium of the St. Louis Medical Society, 3525 Pine Street, St. Louis, Tuesday, June 8, at 1 o'clock p. m.

At the roll call, the following twenty-five members answered present: First District, C. L. Evans, Oregon; Second District, O. C. Gebhart, St. Joseph; Fourth District, J. B. Wright, Trenton; Sixth District, A. C. Crank, Canton; Eighth District, L. W. Cape, Maplewood; Ninth District, A. R. McComas, Sturgeon; Tenth District, C. H. Dixon, Holliday; Eleventh District, G. W. Hawkins, Salisbury; Twelfth District, Spence Redman, Platte City; Thirteenth District, Franklin E. Murphy, Kansas City; Fourteenth District, C. T. Ryland, Lexington; Fifteenth District, H. S. Crawford, Harrisonville; Sixteenth District, E. N. Chastain, Butler; Seventeenth District, W. J. Ferguson, Sedalia; Eighteenth District, Frank DeVilbiss, Tipton; Nineteenth District, S. V. Bedford, Jefferson City; Twentieth District, F. J. Lutz, St. Louis; Twenty-First District, G. M. Rutledge, Ste. Genevieve; Twenty-Second District, G. S. Cannon, Farnfeldt; Twenty-Third District, J. H. Timberman, Marston; Twenty-Fourth District, T. W. Cotton, Van Buren; Twenty-Fifth District, T. T. O'Dell, Ellington; Twenty-Sixth District, W. H. Breuer, St. James; Twenty-Eighth District, T. O. Klingner, Springfield; Twenty-Ninth District, R. L. Wills, Neosho.

The Secretary read the minutes of the meeting of the Council of May 19.

The chairman stated he had asked that the minutes of the meeting of May 19 be read chiefly for the information of those who were not present when that meeting was held. He stated that after the meeting adjourned he attempted to find the record where seven were made to constitute a quorum, as stated by Dr. Breuer at the meeting of May 19, but no such

record was found to exist. Therefore, the proceedings which were had with thirteen members present were necessarily illegal and are null and void. The question then before the Council is the reference to the Judicial Council for action, by the General Meeting, of the statement and charge which was made at the St. Joseph meeting concerning the advertisement of Dr. Woodson.

Dr. Murphy asked whether the officers were legally and properly elected by the Council at the St. Joseph meeting.

The chair replied that the matter had been questioned and it seemed to him it became the duty of the Council to reorganize.

Dr. Evans expressed his belief that such a procedure was proper and right at this time and he moved that F. J. Lutz be reelected chairman of the Judicial Council. Seconded and carried.

Dr. Ferguson moved that E. J. Goodwin be reelected secretary of the Council. Seconded and carried.

Dr. Cape moved that J. Franklin Welch be reelected Treasurer of the Association. Seconded and carried.

Dr. Frank DeVilbiss moved that E. J. Goodwin be reelected Secretary and Editor of the Association. Seconded and carried.

Dr. A. R. McComas asked whether the petition for a writ of mandamus presented by Dr. Woodson to the circuit court of Buchanan County would be interfered with in any manner by any action which we would take this afternoon.

The chair answered that he is informed by counsel that the writ would not be affected by our action. If we rescind the action taken at the last meeting of the Council, there will be no occasion for applying for a writ. If we take another action today then this action can only be affected by the application for and the issuing of a new writ of mandamus.

Dr. G. S. Cannon offered the following resolution and moved its adoption:

WHEREAS, Dr. C. R. Woodson was regularly elected president of the Missouri State Medical Association at a meeting held at St. Joseph, May, 1915, and

WHEREAS, Charges were preferred against Dr. Woodson, said charges being that he was unethical in running a paid card in one of the daily papers, and

WHEREAS, Dr. Woodson appeared in person on the floor of the convention and made a fair statement to the association and agreed to abide by its actions, and also insisted on the Council acting on the charges before adjournment of the general session. This was not done, therefore be it

Resolved, By the Council in session in St. Louis on June 8, in view of the wording of the Section of Ethics of the A. M. A., that all charges against Dr. Woodson be dropped and that he be allowed to serve his term as president of the Missouri State Medical Association, for which he was elected. But,



C. R. WOODSON, M.D.
President, Missouri State Medical Association, 1915-1916

that the Council go on record as against all advertising on the part of the Association, either paid or by silent consent.

Seconded by Dr. W. J. Ferguson.

The chair said he would entertain the motion with the understanding that those who desire to be heard in support of the charge be given a hearing as well as those who may desire to speak on the other side.

Dr. Cannon: The question of the unethical character of the card of Dr. Woodson has been referred to the Council. The publication of cards in newspapers means a great deal to the organized profession in Missouri. I do not approve of the card which Dr. Woodson had printed in the newspapers, but I believe the punishment which this Council meted out to him at its last meeting was severe enough. No doctor in my county has a card in the newspapers. While we are opposed to such advertisements, I believe that we should hear what Dr. Woodson may have to say for himself in this connection.

Dr. R. Emmet Kane of St. Louis presented in a formal way the charge against Dr. Woodson: That he had inserted an advertisement in the daily papers of St. Joseph, Mo., calling attention to his specialty, and that since his election he has been guilty of making statements which could not be substantiated. The example of electing an advertising doctor to the Presidency of the Missouri State Medical Association was bad and would result in great injury to the Association. The speaker believed that we could never successfully enforce discipline against those who advertised, and that therefore Dr. Woodson should be deprived of his office as President of the State Medical Association.

Drs. R. E. Schlueter, R. M. Funkhouser and C. H. Neilson, delegates from the St. Louis Medical Society, spoke in support of the charge. They said Dr. Woodson had aggravated his offense by sending a circular letter containing some misleading statements, which letter had been sent not only to members of the Association, but to nonmembers, which they regarded as taking advantage of an opportunity to further advertise not only himself, but his institution. They opposed his being retained as the leader of the organization because he was guilty of such offenses. They agreed with Dr. Kane that the office of President should be declared vacant.

Dr. R. L. Wills moved an amendment to the resolution of Dr. Cannon as follows:

Be it further, *Resolved*, That it is the sense of the Council that the advertisement inserted by Dr. Woodson in the newspapers is unethical and we demand its discontinuance.

Dr. L. W. Cape said he would like to know whether Dr. Woodson recognizes that he has been guilty of an infraction of the Principles of Medical Ethics.

Dr. J. B. Wright said the facts are: Dr. Woodson was elected President unanimously; that he advertised at the time he was elected. Immediately after his election his attention was called to the advertisement and he took it out. The resolution condemns advertising in unmistakable language and demands its discontinuance. Dr. Woodson has expressed his regret that he put the advertisement in the paper, has taken it out of the paper and has promised he would never advertise again and that he would live up to the Principles of Medical Ethics.

Dr. J. H. Timberman said: It strikes me that Dr. Woodson should make it clear whether he believes advertising is unethical if he expects to be continued as President of the Missouri State Medical Association, and I believe an apology will undoubtedly be forthcoming.

Dr. C. R. Woodson said nobody could regret more sincerely and fully than he did the friction that has been caused by the line advertisement which he published in the newspaper. He said the advertisement was out of the newspapers and he pledged his honor that so long as he lived he would never put another card in the paper. He said he had tried to make it explicit that he did not believe it was unethical when he put the advertisement in the paper, but since he has heard those who objected to it he is convinced that it is wrong to advertise. He promised that no act of his which has caused friction will occur again, and if he was retained as President he was sure no fair-minded man would regret it, and he promised to work as hard as any man to further the best interests of organized medicine. He said he believed his case would be passed on by a body of fair and conscientious men.

The Council then went into executive session. The chair proposed as a substitute for the resolution introduced by Dr. Cannon and amended by Dr. Wills, the following:

The Council regrets that the advertisement of Dr. Woodson appeared in the daily papers of St. Joseph, but Dr. Woodson has made reparation by acknowledging the wrong of advertising and by discontinuing the advertisement, and he promises to refrain from doing so in future, therefore be it

Resolved, That the charge is not of sufficient gravity to warrant summary proceedings.

Resolved, That the Council call attention in the most emphatic terms to the injurious effect of advertising in the lay press.

After a very thorough discussion in which nearly all the members of the Council participated, Dr. Cannon withdrew his resolution and the Council unanimously adopted the resolution proposed by the chairman.

The chair appointed Drs. Crank and DeVilbiss to escort Dr. Woodson to the room to hear the result of the deliberations:

When Dr. Woodson appeared, the chairman said: Dr. Woodson, the Council has adopted a resolution which I will read to you:

The Council regrets that the advertisement of Dr. Woodson appeared in the daily papers of St. Joseph, but Dr. Woodson has made reparation by acknowledging the wrong of advertising and by discontinuing the advertisement, and he promises to refrain from doing so in future, therefore be it

Resolved, That the charge is not of sufficient gravity to warrant summary proceedings.

Resolved, That the Council call attention in the most emphatic terms to the injurious effect of advertising in the lay press.

Dr. Woodson: Mr. Chairman and Gentlemen of the Council: This is certainly a great pleasure to me. If I have made mistakes they were a fault of the head and not of the heart. I thought I had apologized for advertising and I pledge you again that I will do nothing of the kind in the future. I will do everything I can to further the objects and principles of the organization. If any of you have suggestions I need them. I can't make the Missouri State Medical Association a success without your help. I have no persons to punish, no axes to grind, but my one object will be to faithfully discharge my duties to the best of my ability. I thank you, Mr. Chairman.

On motion, the Council adjourned.

CHARLES R. WOODSON, M.D.

Dr. C. R. Woodson, who was unanimously elected president for 1915-1916, at the meeting in St. Joseph, May 10, was born in Knox County, Ky., 1848. At an early age he came to Buchanan County where he attended the public schools and later took up the study of medicine in the Missouri Medical College, now Washington University, by which he was graduated in 1872. He has been in continuous practice from that time, spending all his professional life in St. Joseph. At the meeting of the Association in St. Joseph in 1873 he joined the Association and has therefore been a member for forty-three years. He was president of the Buchanan County Medical Society for one term and has been very prominent in all activities of the medical profession in Buchanan County and the State Association, always giving his time and service freely to the organization when called upon. He has been delegate to the American Medical Association and for twenty-five years has been a member of the American Medico-Psychological Association, said to be the oldest national medical association in America. In 1890 he was appointed superintendent of State Hospital No. 2, St. Joseph, which position he held until July 1, 1907.

PEDIATRIC PROGRESS

At the recent meeting of the American Pediatric Society contributions were made on the following subjects: acidosis, allergy to common foods, homogenized milk mixtures, sugar intoxication, idiosyncrasies to milk, the washing of butter, the relation of chorea to syphilis, and a number of other subjects which cannot be included in this review.

The subject of acidosis has become of supreme importance to all clinicians, especially to pediatricians. Howland and Marriott have made observations which conclusively show that in the acute choleraic diarrheas of infants the great mortality is due to loss of the alkaline bases through the great serous waste, resulting in acute acidosis. The symptoms which we have always attributed erroneously to the virulence of a supposed infection are unfortunately familiar to us all. But the cyanosis and the distressing dyspnea are the special marks of acidosis. The temperature at the beginning may or may not be elevated, but sometimes there is a high antemortem rise. The delightful aspect of the whole subject is that by means of alkalies, freely and promptly administered the whole picture can be changed and the life of the child saved. We have found often that when all food or fluid swallowed is promptly rejected, the use of the stomach tube may be most salutary, and especially is this true in the use of alkaline solutions. If this route should fail, enteroclysis may be tried, especially if a small hypodermic of morphin and atropin has been first administered. Failing in this, the alkaline solution may be given intravenously or subcutaneously. In the latter case the solution should be prepared by a competent chemist, else necrosis may result. Jarvis and Martyn have proved that the pernicious vomiting of diphtheria is largely due to acute acidosis, and that the free use of alkalies together with adrenalin, administered regularly and systematically, gives a vastly better prognosis than we have ever had before in this dreadful class of cases. In the pernicious vomiting of pregnancy acidosis plays a more or less important rôle.

Saunders and White, in a paper on "Idiosyncrasies to Milk," report a case of uncomplicated chickenpox which presented all the appearances of malignancy for the first two days, due to an attack of acidosis, or, as ordinarily termed, "cyclic vomiting," of which the child had many previous attacks. According to their view, cyclic vomiting, or "periodic autointoxication," with or without pernicious vomiting, as it might more properly be termed, is largely due to a milk idiosyncrasy beginning often during the nursing period and showing a malignancy at this period greater than at any time subse-

quently. The tendency is toward destruction of the liver, and in fact one case is cited of acute yellow atrophy terminating an attack of pernicious vomiting in a child of 8 years who had shown the syndrome of acidosis from the age of 4 months. The most fatal cases are those of infants at the breast who show a family history of idiosyncrasy to milk, either total or partial.

Parke several years ago, and Abt recently, have well described this class of cases, although they have not connected them etiologically with milk idiosyncrasy. Weaning, prophylactically if the family history be bad, exclusion of milk from the diet, alkalies and stomach washing will save these cases. There is generally gastric catarrh present. There is another large class of cases characterized by varying symptoms, but of all of whom it may be said that they either fail to gain or do not sleep quietly, and in whom no modification of milk diet succeeds. In the dietetic treatment of this class it should be the invariable rule to abolish all milk and to seek to bring the child to a thriving and comfortable condition, after which milk may be cautiously tried again. The old dictum that the pediatrician should always succeed in obtaining a milk mixture suitable for any child is simply not true. A third class of cases is found among children and young adults. Briefly speaking, vertigo, mental and physical inertia and frequent attacks of what are commonly termed "biliousness," characterize this class of cases. In some of them a moderate amount of milk may be tolerated; in others not a single grain, not even as much as is found in ordinary baker's bread. Anorexia and anemia sometimes coming on with surprising suddenness, are also symptoms pointing to milk idiosyncrasy.

Dunn and Porter have conducted a series of experiments to test Finkelstein's conclusions in the matter of sugar intoxication, and their deliberate verdict is that Finkelstein has largely overstated the matter. In a previously published paper Dunn has given the result of his observations in cases of fat intolerance. He found that these cases are apt to die in a "blow-up" following a period of apparent reconciliation to an increasing amount of milk fat in the diet. Perhaps these "blow-ups" are nothing more nor less than attacks of acidosis. In such cases Ladd has obtained apparently phenomenal results by the use of homogenized olive oil and skimmed milk mixtures. The homogenizing of fat is a recent advance in the dietetic therapeutics of infancy and may be described as the obtaining of a fine and permanent emulsion of any fat in milk. The babies made great and continuous gains on this diet, but it has been objected by some that the use of nonglandular fat in the diet of the young of the lower animals

is productive of sterility. If only small amounts of milk fat be tolerated by infants this ill effect may be obviated, and perhaps an animal fat derived from the liver, such as cod liver oil, may be used for the same purpose, as maintained by some. At any rate, the homogenizing of fat has marked a tremendous advance in the science of infant feeding. Gerstenberger and his collaborators have succeeded in producing a perfectly homogenized olive oil and lard milk mixture, but the results of Ladd could not be improved on, and the animal fat must be of glandular origin to obviate the objection on the score of ultimate damage to the reproductive organs, and perhaps to other organs of internal secretion. The washing of butter, so as to free it from its volatile fatty acids is also highly spoken of by authorities today. In cases of fat intolerance it has been found that after the first half year, certified milk may be skimmed and the cream made into butter, which is incorporated in moderate amounts of cereal foods and is well and continuously borne by infants who were never able to tolerate anything but skimmed milk in their diet. In other cases fat milk may be used for a period of one week, then for several days all milk fat is eliminated from the diet, returning to the fat milk diet for another week. This method has proved very successful in some cases.

Schloss has made an exhaustive study of the subject of "allergy to common foods," and has greatly broadened our knowledge of this most important subject. The protein of any of the ordinary foods may produce an anaphylactic reaction locally, and when administered internally, in the skin, mucous membranes of the respiratory apparatus, or the mucous membranes of the gastro-intestinal canal. In every case of asthma a local test should be made of all the proteins contained in the diet. In a paper published in 1907, Chapin emphasized the fact that there were infants who showed an absolute proteid incapacity; that is to say, were unable to assimilate continuously any proteid whatever. These infants are doomed to die. On the other hand, those who manifest an incapacity or rather an idiosyncrasy to a particular proteid food, that of milk usually, could be brought to recovery by the change necessary in the proteid administration.

It is high time to correct the prevalent fallacy that there is no such thing as absolute proteid intolerance of human or of cow's milk. Koplik, in a paper summing up the results of his investigations concerning the relationship of chorea to syphilis, has shown that, practically, syphilis is found no more often in these cases than in the same number of children taken at random.

THE SPECIAL HOSPITAL

In the great fight against disease, special means and special institutions have at times to be established. This has especially proved so in connection with tuberculosis and with cancer, both of which are so prevalent and possess such a high mortality. Careful research for knowledge of the actual processes and progress of such diseases and the accomplishing of real protection, and where possible the application of scientific treatment and the effecting of cures, are to be attained only where regular and systematic study and care can be given.

In the prevention and treatment of tuberculosis much has been done. The future promises still more toward its elimination. With cancer the problem grows more serious every day. Quacks and charlatans, recognizing its prevalence and the fear and credulity of the ignorant public who may be suffering from any ulcer or abdominal growth, have taken advantage of the situation. As a result cancer doctors and cancer hospitals are numerous in most of our large cities. But few of them have as yet been established or been supported by the regular medical profession. To give the public a greater protection and to aid in the fight against quackery, the establishment of a special hospital for the care and treatment of cancer by a member of the Jackson County Medical Society should receive our interest and support. Such an institution has been opened by Dr. Halsey M. Lyle at Twelfth and Michigan, Kansas City, Mo., and for it we bespeak a visit and every support it may deserve.—*Bull. Jackson County Medical Society.*

BETTER BABIES' HEALTH CONFERENCE

At Branson, June 5, a Better Babies' Health Conference was conducted under the auspices of the Branson and Hollister Mothers' Clubs. There were four entry classes: Class 1, from birth to 6 months; Class 2, 6 to 12 months; Class 3, 1 year to 18 months; Class 4, 18 months to 2 years. About twenty-five babies were entered. Drs. Guy B. Mitchell and G. W. Gloyd conducted the examination and marked the score cards. Mrs. Elizabeth Keller, head of the visiting nurses' association of Springfield, demonstrated the care for better babies, and gave an interesting and instructive talk to the mothers.

MEMBERSHIP CHANGES, JUNE

NEW MEMBERS

Kenneth R. Barnum, Sedalia.
John W. Bolton, Warrensburg.

Carlos E. Cossins, Burlington Junction.
Alexander J. Courshon, Williamsburg.
John S. Evans, Brookfield.

CHANGE OF ADDRESSES

F. L. Anderson, Marshall to Kansas City.
Thomas O. Edgar, St. Louis to Dixon, Ill.
William Thomas Eudy, West Eminence to Koller.
Morris H. Clark, 405 Argyle Bldg., to 713 Lathrop Bldg., Kansas City.
Oliver P. Bourbon, 404 Argyle Bldg., to 317 Lathrop Bldg., Kansas City.
F. W. Froehling, 920 Holmer St., to 702 Sharp Bldg., Kansas City.
William F. Grote, 1225 Sullivan Ave., to 2641a Hebert St., St. Louis.
Augusta Helle, 3169 S. Grand to 3525 Arsenal Ave., St. Louis.
R. C. Henderson, Atchison, Kans., to Kansas City.
E. L. Hume, Bourbon to New Bloomfield.
Leo C. Huelsman, St. Louis to Silver City, New Mexico.
George H. Kuper, Ferguson to 5322 N. 20th St., St. Louis.
David R. Lamb, 3548 Victor St., to 306 Wall Bldg., St. Louis.
J. G. Love, Porter Bldg., to Ilgenfritz Bldg., Sedalia.
John A. Malley, Hannibal to Monroe City.
A. E. Monroe, Hoffman Bldg., to 111 W. 4th St., Sedalia.
Ellsworth E. Moody, St. Louis to Denver, Colo.
Jos. E. Miller, Sullivan, Ill., to Mount Hamil, Iowa.
F. W. Rathbone, Kansas City to Harrisonville.
Fred P. Riley, Brashear to Clyde.
F. M. Roberts, Hunnewell, Mo., to Monroe, Iowa.
H. S. Rowlett, Graham to Maryville.
D. E. Singleton, Keytesville to Clarence.
W. G. Safford, 314 Ridge Bldg., to Box 400, Kansas City.
Clarence V. Smith, Elwood, Ind., to Tipton, Ind.
Edward F. Stadtherr, Reno, Nevada, to San Luis Obispo, Cal.
A. W. Thompson, Chillicothe to Kansas City.
Guy Titsworth, Hoffman Bldg., to 111 W. 4th St., Sedalia.
W. H. Wiley, Ridgeway to Albany.
Wm. J. Wills, Sedalia to Springfield.
B. H. Zwart, 1019 Prospect Ave., to 3857 Charlotte, Kansas City.

DECEASED

Frederick H. Nies, St. Louis.

MISCELLANY

PENNSYLVANIA OPTOMETRY BILL VETOED

The Pennsylvania legislature recently passed a bill providing for a separate board of examiners for "optometrists" which Governor Brumbough promptly vetoed. In his veto message the governor said: "This board is created in a way that is contrary to all precedent. To limit the executive in his appointments to a professional body to whom is entrusted the conservation of human vision by compelling and directing him to appoint only those selected by the executive committee of a society that has no obligation or responsibility to the people, and a society whose members are in no legal way related to the people at large, is contrary to the policy of law. Only members of said society would be eligible to a place on the board, notwithstanding the fact that there may now be and in the future there may arise other societies whose functions it is or may be with equal competence to administer to the human eye. In the formation of other state boards the executive is not so limited and no reason has been given me why this limitation should be made. The judgment and discretion of the executive cannot be delegated to legally irresponsible bodies. This restriction is fundamentally wrong.

"There is no convincing reason why those practitioners should not voluntarily place themselves under the existing licensing body of the commonwealth. . . . The standards of professional service in this commonwealth are and have been high. We are a center of professional services of the most commendable standards. These standards must be safeguarded and exalted. No official act of the commonwealth should in any way lessen the standards of admission to a professional career in this commonwealth nor the standards of professional training to fit for technical service. The human eye is priceless. The care and treatment is a sacred service. The sanction of the state, which is the sanction of the people, cannot be lightly bestowed."—*Jour. Am. Med. Assn.*, May 29, 1915.

WHY WE SHOULD HAVE A WAR AGAINST CANCER

It is a fact that cancer kills about 75,000 people in the United States every year. Any disease which causes such a high annual toll should command the careful attention of the government, the medical profession and the people. The need for this careful attention is all the more imperative if both the morbidity

and mortality can be very largely reduced by cooperation on the part of these three forces, that is, the government, its people and their physicians.

The reduction that has been caused in tuberculosis is now a matter of history. There can be no doubt that similar well-directed and persistent activity would cause a similar effect in cancer.

The key to the reduction of cancer mortality lies precisely in this: That cancer always begins as a purely local disease involving a strictly limited area. Second, that this limited area is accessible in about four-fifths of all cases; and third, and most important, a commencing cancer practically always indicates its presence when it is still in its early, locally limited and permanently curable stage. In other words, the enemy that we have to fight is not the cancer, but the delay. Nearly 60,000 of our people die every year, not because they have cancer, but because they have waited till the cancer became incurable.

The causes for delay are, first, that the people know little or nothing about cancer. The layman or laywoman does not know that certain evident signs and symptoms mean that cancer is insidiously creeping on them and will be fatal unless recognized and checked in time. So that a large proportion of our 60,000 unnecessary cancer deaths occur because the people do not know. If a woman has a right to kill another human being to save her own life when attacked, how much more has she the right to know that a fatal disease has begun its attack on her? A woman who loses her life at 40 simply because she never knew that irregular vaginal bleedings indicated the presence of a cancer while it was in its early curable stage, certainly has not had her fair chance at the hands of civilization. If our people are dying because they do not know, we, the doctors, must teach them. We must teach women that a lump in the breast, no matter how small or how painless, may be the starting point of a serious condition and must at once be investigated by a competent physician. We must teach women that irregular vaginal bleeding, the onset of a discharge, etc., may be early warning symptoms of cancer of the uterus. We must teach all people that a mole or a wart which begins to grow, bleed, or ulcerate, is a danger sign that must be heeded at once. There are similar early signs in other portions of the body that may forewarn people, and of which they should have accurate knowledge.

There is also a great field in the conditions marked by chronic irritation and the so-called precancer lesions. Recent statistics show that in about 40 per cent. of cases the cancer, the malignant disease, was preceded by long-continued simple diseases or by some form of chronic irritation. In other words, a large proportion

of cancerous people need not have had the disease at all if they had been forewarned and had their precancerous condition cured.

The second great problem lies with us as medical men. Are we as active in the treatment of precancerous diseases as we should be, or do we only too often put our patients off with some placebo and advise them not to worry? Do we always insist on a thorough examination when a patient comes to us with symptoms that may mean cancer? When an early cancer is present, do we always lay proper emphasis on the necessity for proper treatment at once? Do we not too often advise the one course which can yield to disaster and tell our patients to wait and see what develops, that is, wait till the cancer becomes inoperable? Unfortunately at the present time these questions must be answered to our disadvantage. A recent extensive investigation has shown that on an average the family physician has had his cases of cancer under observation for about a year before they come to a real attempt to cure the disease. Our attitude to cancer needs to undergo a radical change. The average of one year's observation must be cut down to a few weeks, or, best, to a few days. Immediate attention to the precancerous condition, counsel in the doubtful cases, and immediate action in the positive cases, is the only proper service we can give our patients. To do this, we need a campaign among ourselves, too. A new and more efficient spirit must be created which will result in constant watchfulness to keep our patients from swelling the thousands of untimely and unnecessary deaths from cancer.—*From the Commission on Cancer of the Medical Society of the State of Pennsylvania.*

OSKALOOSA, CONGRATULATIONS!

Oskaloosa is in Iowa, and, of more importance, the *Times* is in Oskaloosa. The *Times* is a weekly newspaper exemplifying the new era of American journalism. In its issue for April 16 the editor says that the paper is going to take a "spring tonic," "not that the *Times* is in a bad way, for rather it is healthy and lusty, but because the editor has come to the conclusion that its blood needs purifying." To further elucidate:

"Advertising is the blood of the paper, and the doctor's prescription calls for the adoption of a new policy by which all advertising for patent medicines shall be refused. No more contracts for patent medicine advertising will be entered into by this paper. As rapidly as possible those now carried will be discontinued."

In explaining its reason for rejecting all "patent medicine" advertising the paper says:

"The *Times* hasn't time to investigate all medicines that offer their advertising and determine their value. The best way and most effective is to refuse space to them all."

Here, then, we have a country newspaper rejecting many hundreds of dollars of advertising revenue yearly for a principle. Realizing that there is no

competent board to pass on the question of what constitutes objectionable and unobjectionable "patent medicines," the paper, rather than be untrue to its readers' interests, rejects all "patent medicine" advertisements. The action of the Oskaloosa *Times* is one more unvoiced criticism of medical journalism that the medical profession should take to heart. The Oskaloosa paper concludes its editorial:

"The *Times'* spring tonic will be a little expensive at first, but the *Times* is confident that it will be repaid for the taking by a better feeling and a greater opportunity for service to the people of Mahaska County."

The *Journal of the American Medical Association* believes the confidence of the *Times* is well placed and that its action will redound to the health of the people of Oskaloosa and vicinity.

WILLIAM R. NELSON'S SERVICES TO THE MEDICAL PROFESSION

The medical profession had an especial debt of gratitude which it owed to the many sided man who died in Kansas city on Tuesday last. It was often the duty of this society to request a hearing from the Kansas City *Star*, in order to outline what it believed to be the best interests of the public of this community in matters of public health and medical legislation. No one is better qualified than the representatives that we have sent there to testify to the disinterested public spirit of William R. Nelson. His was one of the first newspapers to exclude the advertisements of dishonest patent medicines, and of quack doctors, from its pages. We were always sure that the *Star* could be depended on to stand squarely on the right side, unaffected by the shallow sophistry of antivaccinationists, antivivisectionists, optometrists, chiropractors or all the other well meaning, but incompletely informed bodies who so constantly go about darkening the counsel of the credulous.

It is seldom that the death of a public man at the age of 74 leaves a community with such a sense of loss—a sense of loss that is far more than a personal or public bereavement. It is such a sense of loss as makes us look about for leadership, such a sense of loss as makes us feel lonely and afraid.

—LOGAN CLENDENING.

A RESOLUTION

In the death of William R. Nelson, editor of the Kansas City *Star*, attention is called to a very great personality, one whose whole being was attuned to universal principles, and whose interest in public welfare was so intense that the individual or special group in need, always received his thought and support through the columns of his great daily.

The Jackson County Medical Society wishes to pay special tribute to his efforts and cooperation in the establishment of the highest in ethics, the elimination of quackery, and the development of scientific medicine.

It is our pleasure and duty to acknowledge the beneficent influences for social weal of such an institution as the Kansas City *Star*, so ably and unselfishly directed by Mr. Nelson, whose character and spirit are so impressed on it, that we expect the policy and principles he outlined and established to be continued.

Very respectfully submitted.

E. L. STEWART,
LINDSAY S. MILNE,
SCOTT P. CHILD.

—From Jackson County Med. Society *Bulletin*.

SHUN TRAVELING QUACKS

The confessions in the Kansas City *Star* of a young fellow who touted for a quack doctor, traveling over the state, visiting sick people in farmhouses, securing hundreds of dollars for absolutely worthless medicines, should warn other people who are ill and who are prone to believe everything they are told by these quacks who seek only their money.

Your home doctor has a reputation to sustain; he is responsible; he will tell you the truth; if you would consult a capable specialist, he will help you find the right one; he is worthy of your respect.

Shun the traveling quack as you would the devil. Don't put yourself in his power. Don't come to town to consult him; if he has the nerve to hunt you up in your own home, just unchain the dog and do some "sicking" yourself.—Warrensburg (Mo.) *Star-Journal*.

AN ANTIVIVISECTION INQUIRY

"A circular letter is being sent to laboratories throughout the country asking for a report on the number of mammalian animals used for scientific research or physiologic demonstration during the year ending Dec. 31, 1914. The report is to include statements regarding the number (1) used for demonstrations, (2) experimented on by students, and (3) employed for research. The letter is sent out by the Society for the Prevention of Abuse in Animal Experimentation, and is signed by their treasurer and counsel, Mr. Frederick P. Bellamy. Mr. Bellamy declares that one of the objections to animal experimentation is that no one can tell its extent. The 'extent,' however, has not been in question. The feature that the antivivisectionists have objected to and have made much of is the 'extreme pain' and 'appalling suffering' which they have assumed that animals experience in the laboratories. Against painless experimentation most of them would have no objection. It is to be noted that in the inquiry now being made, there is no mention of anesthesia. The figures as to the number of animals used would be of not the slightest significance, therefore," says *The Journal of the American Medical Association*, "unless it is assumed that the animals are cruelly treated. From the publications of the Society for the Prevention of Abuse in Animal Experimentation, it is fair to suppose that there would be no hesitancy in their assuming frequent abuse of animals. For example, they quote with approval Spencer's saying: 'We consider as wholly unjustifiable the common practice of subjecting animals to torture in the laboratory or classroom merely for the purpose of demonstrating well-known and accepted facts. We hold that the infliction of torment upon a living animal under such circumstances is not justified by necessity, nor is it a fitting exhibition for the contemplation of youth.' To this we say, amen. But we also say that there is no evidence to justify the assumption that the teachers of medicine in this country, while making demonstrations to their students do inflict 'torture' and 'torment.' In the circular letter the statement is made that the Society for the Prevention of Abuse in Animal Experimentation is not opposed to vivisection. It happens, however, that the treasurer and counsel of that society has on two occasions been prominent at legislative hearings in New Jersey, in his vigorous opposition to the establishment, in that state, of the Rockefeller Institute's Laboratory for the Study of Animal Diseases. Action speaks louder, etc. In consideration of the facts given above, it is clear that any information secured by the society which Mr. Bellamy represents is likely to be twisted to its purposes and in opposition to the methods of medical research."

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
Webster County Medical Society, Jan. 1, 1915.
Sullivan County Medical Society, Jan. 2, 1915.
Cooper County Medical Society, Jan. 16, 1915.
Camden County Medical Society, Feb. 2, 1915.
McDonald County Medical Society, Feb. 12, 1915.
Daviess County Medical Society, Feb. 22, 1915.
Christian County Medical Society, March 22, 1915.
Ste. Genevieve County Med. Soc., March 24, 1915.
Atchison County Medical Society, March 25, 1915.
Benton County Medical Society, March 26, 1915.
Schuyler County Medical Society, March 30, 1915.
De Kalb County Medical Society, April 12, 1915.
St. Charles County Medical Society, April 14, 1915.
Barton County Medical Society, April 15, 1915.
Carroll County Medical Society, April 17, 1915.
Platte County Medical Society, April 19, 1915.
Clark County Medical Society, April 19, 1915.
Audrain County Medical Society, April 21, 1915.
Putnam County Medical Society, April 24, 1915.
Ray County Medical Society, May 13, 1915.

Missouri State Medical Association

Fifty-Eighth Annual Meeting, held at St. Joseph,
May 10-12, 1915

MINUTES OF THE HOUSE OF DELEGATES

Scottish Rite Cathedral

Monday, May 10, 1915—Morning Session

The House of Delegates was called to order by the President, Dr. H. C. Shuttee of West Plains, at 9:40 a. m., in the Scottish Rite Cathedral.

At the roll call sixty-five members answered present, as follows:

County	Delegate
Atchison.....	Charles E. Benham, Tarkio
Audrain.....	J. G. Moore, Mexico
Barton.....	J. L. McComb, Lebanon
Bates.....	C. A. Lusk, Butler
Boone.....	Guy L. Noyes, Columbia
Buchanan.....	H. S. Forgrave, St. Joseph
Buchanan.....	Daniel Morton, St. Joseph
Cass.....	H. S. Crawford, Harrisonville
Chariton.....	J. D. Brummall, Salisbury
Christian.....	J. W. Bruton, Ozark
Clark.....	G. W. Geeslin, Kahoka
Clay.....	J. H. Rothwell, Liberty
Clinton.....	P. M. Steckman, Plattsburg
Gentry.....	A. L. Woolis, Darlington
Greene.....	S. A. Johnson, Springfield
Grundy.....	J. A. Asher, Trenton

Harrison.....	C. H. Robinson, Bethany
Henry.....	J. H. Walton, Windsor
Holt.....	O. W. Nauman, Craig
Howard.....	C. F. Burkhalter, Higbee
Howell.....	J. H. Elliott, West Plains
Jackson.....	William Frick, Kansas City
Jackson.....	F. E. Murphy, Kansas City
Jackson.....	N. P. Wood, Independence
Jackson.....	J. N. Jackson, Kansas City
Jackson.....	D. E. Broderick, Kansas City
Jackson.....	R. McE. Schauffler, Kansas City
Johnson.....	Henry Park, Knobnoster
Laclede.....	T. B. Herbert, Lebanon
Lafayette.....	J. G. W. Fischer, Alma
Lawrence-Stone.....	H. L. Kerr, Crane
Lewis.....	J. C. Nunn, Maywood
Linn.....	Ola Putman, Marceline
Macon.....	William A. Welch, Callao
Mercer.....	C. P. Pickett, Mercer
Miller.....	W. S. Allee, Olean
Mississippi.....	H. L. Reid, Charleston
Moniteau.....	John P. Burke, Sr., California
Monroe.....	C. H. Dixon, Holliday
Morgan.....	A. J. Gunn, Versailles
New Madrid.....	H. A. Killion, Portageville
Nodaway.....	F. R. Anthony, Maryville
Pettis.....	Guy Titsworth, Sedalia
Platte.....	Spence Redman, Platte City
Polk.....	R. Lee Russell, Humansville
Putnam.....	C. O. Thomas, Worthington
Randolph.....	L. A. Bazan, Moberly
Ray.....	W. G. Estill, Lawson
Saline.....	D. C. Gore, Marshall
St. Louis.....	Walter Baumgarten, St. Louis
St. Louis.....	Malcolm A. Bliss, St. Louis
St. Louis.....	William T. Coughlin, St. Louis
St. Louis.....	Robert E. Schlueter, St. Louis
St. Louis.....	C. H. Neilson, St. Louis
St. Louis.....	Cyrus E. Burford, St. Louis
St. Louis.....	R. Emmet Kane, St. Louis
St. Louis.....	Robert M. Funkhouser, St. Louis
St. Louis Co.....	S. H. Reynolds, Maplewood
Schuyler.....	J. H. Keller, Glenwood
Scotland.....	A. E. Platter, Memphis
Shelby.....	Frank K. Roy, Clarence
Taney.....	Guy B. Mitchell, Branson
Vernon.....	J. T. Hornback, Nevada
Wright.....	E. C. Wittwer, Mountain Grove
Texas.....	L. M. Edens, Cabool

On motion by Dr. F. J. Lutz, the minutes of the previous meeting were adopted as printed and published in *THE JOURNAL*.

Dr. W. G. Estill, Vice President, took the chair. The President read his message, as follows:

To the House of Delegates, Missouri State Medical Association:

In accepting the presidency of this Association, I felt my weakness and inability to serve you in an acceptable manner and dreaded the responsibilities connected with the office. But I have found the labor not arduous, but a pleasure, and my association with the officers and members has been an inspiration that will remain with me through life.

The fifty-eighth annual meeting will, I trust, go into our history as the best one ever held. The success of our health meetings yesterday should encourage us to greater effort toward instructing the public in health matters, for the people are avid for information along these lines, and Health Sunday should, in my opinion, be made a feature of all our meetings in the future.

I congratulate you on the fine work the county societies are doing throughout the state, and on the increased influence our membership is able to exert on medical legislation for the protection of both ourselves and the people. Never before has the value and influence of the membership of the county societies been so prominently exemplified as in the defeat of the optometry bill before the last house of representatives. An analysis of this vote shows that the defeat of the bill was directly due to the influence of the membership from the country. In the three large cities, St. Louis, Kansas City and St. Joseph, the total number of representatives is 28, and of these, 22 voted for the optometry bill, 3 against it and 3 were absent. If the same ratio had obtained throughout the state the bill would have passed by a great majority. What is the matter with our city confrères that they seem unable to exercise much influence over their representatives? Or are the representatives from the country possessed of finer characters and greater intelligence than those from the cities?

While the scientific work of the county societies is of the highest character, some of them are not meeting as often as they should, and I regret to note that all do not report every meeting to our *JOURNAL*. Possibly there may be an impression in some quarters that no one reads the proceedings of the county societies, and therefore it is not important to report meetings; but this is a great mistake, for I am sure the great majority of our membership read this part of *THE JOURNAL* with interest. Therefore, I would urge the secretaries to report promptly every meeting, for in this way only can we keep in touch with each other and know what the members in the various parts of the state are doing.

There has been some complaint that the councilors of some districts do not give any time or attention to their duties, and if this is true, they should either wake up or resign, so that another councilor can be appointed who will give the office the work it demands. No doctor should accept that or any other office within the gift of the Association unless he is willing to make the necessary sacrifice demanded in fulfilling the duties of the position. But possibly dereliction of duty on the part of the councilor may be more apparent than real, for it may be that the societies in his district have not invited him to visit them, and he is not likely to pay a visit unless an invitation is given him.

You are also to be congratulated on the financial condition of our Association. Never before have we been in such prosperous condition, and it is recommended that a sum be set aside as a start toward building up a considerable reserve fund, for the strength of all institutions depends largely on their reserve forces.

The income from *THE JOURNAL* has been greater this year than for any year in the past, and promises soon to be large enough not only to pay all the expenses of publication, but also at least a part of the expenses of the Association. I am not wholly in sympathy with the suggestion that all advertisements be eliminated from *THE JOURNAL*, but regard this as a perfectly legitimate source of income so long as the advertisements are strictly ethical. While the publi-

cation of our JOURNAL without advertisements is no doubt the ideal toward which we should strive, this is an eminently practical and utilitarian age, and in my opinion we should not and will not suffer any debasement of our dignity as a profession nor any declension of our influence and usefulness by continuing this practice.

The Secretary informs me that a few county societies are slow in sending in annual dues, and I am sure that a little more energy in collecting dues and a little more promptness in remitting to the State Secretary on the part of some county secretaries would be greatly appreciated at headquarters.

The work of the Defense Committee has been highly satisfactory during the past year, and as they have gained experience in the conduct of defense in malpractice suits, they have been able to handle them with less expense. No change should be made in the membership of this committee unless absolutely necessary, because in this work experience counts for so much.

The amendment to the Constitution proposed last year to give the Association supervisory or veto power over applicants for membership in the county societies, should have your earnest consideration. As the Association grows in influence and power and in the esteem of the public, there will be greater effort on the part of unworthy doctors to become members, and it might well happen that a doctor who had been rejected by one society might remove to another county and succeed in joining the county societies at his new place of abode, then return to his former place of residence and demand admission on a transfer card to the very society that had rejected him. Indeed, it was such an instance that prompted the introduction of the amendment. If all censors would do their full duty and make a thorough investigation of all proposed candidates for membership, this amendment might not be necessary; but this is not always done. I am sure you realize the importance of devising some means that will insure the rejection of all unworthy applicants for membership, and will give this matter the consideration its importance demands.

On motion, the President's message was referred to the Judicial Council.

A brief report by Dr. Daniel Morton, chairman of the Committee on Arrangements, was made, and on motion received.

The report of the Judicial Council was read by the chairman, Dr. F. J. Lutz of St. Louis, as follows:

The Executive Committee of the Judicial Council begs leave to make the following report of its activities during the year:

As often as it has been deemed advisable the Executive Committee has met in formal session and has taken cognizance of conditions which required immediate action. Among the matters to which I desire to call your attention, is the attitude which the Executive Committee has assumed for the Association toward the candidacy for a seat in Congress of the United States of Mr. James T. Lloyd of the First Missouri District. You will recall that at the last annual meeting the Association took exceptions to the manner in which Mr. Lloyd had treated a request on the part of the St. Louis Medical Society that he oppose the transference of the Surgeon-General's Library to the Congressional Library, giving to Mr. Lloyd such reasons for this request as to the Society seemed conclusive. Mr. Lloyd corresponded with the Secretary of our Association after the Joplin meeting still maintaining the correctness of his position. Although urged by many persons voters in his district to oppose the candidacy of Mr. Lloyd, the

Executive Committee, acting in the spirit of our organization, insisted that the Association should not enter into political controversies in the manner in which many of them suggested. Unfortunately, there was not unanimity on the part of the medical men in his congressional district, otherwise he would have been defeated for the nomination. No doubt Mr. Lloyd has been taught a wholesome lesson, for the criticism of so large a body of intelligent citizens as is represented by the Missouri State Medical Association could not but make a profound impression.

The Executive Committee also acted in consultation with the Committee on Health and Public Instruction concerning candidates for the state legislature, and the work which has been accomplished tells eloquently how potent a factor this Association can be in enacting suitable health laws.

The Executive Committee also wishes to call attention to the continued violation of the spirit of the resolution which was passed by this Association at the Fifty-Fifth Annual Meeting, held in Sedalia, 1912. According to this resolution, it is contrary to the best interests of the medical profession of this state for its members to be affiliated with medical publications which are not in harmony with the principles of ethics of the American Medical Association and of its various councils. In some conspicuous instances members have withdrawn their names as editors and associates of medical journals which carry objectionable advertising material, and have done so at the suggestion of the Executive Committee before their contemplated appointments to committees were carried out. There are as yet, however, members whose names lend dignity and weight to publications not in accord with our organization. Every county society should see to it that such of its members as have objectionable professional affiliations with medical journals or institutions sever their connections from them or from the local society. Our own JOURNAL has reached so splendid a position and has so large a circulation, is presented in so acceptable a dress, that it should satisfy the tastes of the most fastidious and should be the pride of our members. Our appreciation of our own vehicle of communication for scientific as well as for social news should have the earnest and enthusiastic support of all our members, and "to run after false gods" merely to see our names in print is a testimonium *paupertatis* which no member of the State Medical Association should be willing to give to himself.

We recommend that the House of Delegates take some definite action so that the proper committees will be empowered to present to such members the objectionable nature of their association, and that the committees be empowered to enforce the regulations made by the House of Delegates.

The Executive Committee wishes to call your attention, furthermore, to the magnificent work which has been done by the Defense Committee during the past year. It is generally admitted that the existence of the defense feature of our Association is a potent factor in continuing the interest of the physicians of this state in our organization, and as the experience of the committee increases, their advice to the individual members who may be so unfortunate as to have a malpractice suit instituted against them, becomes greater and the protection which their conscientious conduct of affairs affords the Association is very apparent. We are under many obligations to them, and I know you will make formal record of our appreciation before the meeting adjourns. Their report is especially valuable, and should be carefully read and considered by every member of the House of Delegates.

The business affairs of the Association, as the exhibits show, are conducted in an orderly and business-like manner. The books are properly kept, the income and expenditures are readily ascertained and the general work of the Association is being conducted along the best lines that can be suggested by experience. Our affairs are constantly growing, requiring an unusual amount of detail work, and are taking up all the time of our Secretary and his assistants. I need only call your attention to the systematic manner in which the Secretary is conducting his office, which is in better order and which has its work better in hand than ever before, to assure you that the confidence and trust which you have put in him have been well placed.

Many important questions have come before the Secretary which demanded immediate decision, and your Executive Committee is glad to report that he has always been sustained by the committee whenever his decisions have been questioned.

The Executive Committee has endeavored to keep close watch over the expenditures, and while we have not refused to make such outlays as seemed necessary to carry on our business in an expeditious and thorough manner, we have been as economical as was consistent with obtaining the best results. Fortunately, our income from various sources has constantly increased, and the Executive Committee has concurred in the suggestion, and has requested the chairman to present it to you, that we set aside a sinking fund of not less than \$1,000, on which we could draw if ever we should become hard pressed. There should be added to this fund a certain sum each year until the fund shall have reached a sum sufficiently dignified to place the Association on a firm financial footing.

On motion, the report was adopted.

The annual report of the Secretary was read (see page 344). Dr. Lutz moved that those portions of the Secretary's report which required legislative action be referred to the respective committees with instructions to make such report as they would recommend we adopt. Seconded and carried.

The annual report of the Treasurer was read, and on motion, referred to the Judicial Council.

The report of the Committee on Scientific Work was read by Dr. E. J. Goodwin, chairman, and on motion adopted (see page 345).

Dr. A. R. McComas, chairman, read the report of the Committee on Health and Public Instruction. On motion, the report was adopted (see page 345).

Dr. Robert E. Schlueter, chairman, read the report of the Defense Committee. On motion, the report was adopted (see page 342).

Dr. R. Emmet Kane moved that, in view of the fact that Dr. Walter B. Dorsett, a member of the Defense Committee, is prevented by illness from being present, this being the first meeting of the Association that he has missed in almost a quarter of a century, a committee be appointed to draw up resolutions expressing the regret of the House of Delegates that Dr. Dorsett is not present and express our earnest hope that he will soon be restored to health. Seconded and unanimously carried.

The President appointed on this committee Drs. Kane, Lutz and Schlueter.

The report of the Publication Committee was adopted as printed in the pamphlet (see page 344).

No member of the Committee on Revision of Constitution and By-Laws being present, the Secretary read the report as published in the pamphlet as follows:

REPORT OF COMMITTEE ON REVISION OF CONSTITUTION AND BY-LAWS

The amendment to the Constitution introduced at the last session will come up for action at this time. The amendment reads:

"Amend Article IV, Section 2, of the Constitution entitled Members, by inserting after the word 'be' in the second line, the words 'such of,' and after the last word of the section add the words 'as shall be approved by this Association,' so that the section shall read:

"Article IV, Section 2, Members. The members of this Association shall be such of the members of the component county societies as shall be approved by this Association."

Two amendments to the by-laws are suggested. A change of the nature proposed is made necessary in order to comply with the rulings of the U. S. Post-office Department concerning subscriptions to *THE JOURNAL*. The suggested amendments are:

Amend Chapter 12, Section 5, by adding after the word "medicine," in line 6, the following: "Who shall apply on the prescribed form and subscribe for *THE JOURNAL*, paying the dues for the current year," so that the section shall read as follows:

Section 5. Each county society shall judge of the qualification of its own members, but as such societies are the only portals to this Association and to the American Medical Association, every reputable and legally registered physician who does not support or practice or claim to practice sectarian medicine who shall apply on the prescribed form and subscribe for *THE JOURNAL*, paying the dues for the current year, shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Amend Chapter 9, Section 1, by adding after the word "association" in line 4, the following: "Of which \$1 shall be credited to the subscription to *THE JOURNAL* for one year," so that the section shall read as follows:

Section 1. An assessment of three dollars (\$3.00) per capita on the membership of the component societies is hereby made the annual dues of this Association, of which one dollar (\$1.00) shall be credited to the subscription to *THE JOURNAL* for one year. The Secretary of each county society shall forward its assessment, together with its roster of all officers and members, list of delegates and list of nonaffiliated physicians of the county to the Secretary of this Association on or before December 31 in advance of each Annual Session.

H. J. JURGENS,

THOMAS O. KLINGNER, *Acting Chairman,*
The Committee.

Dr. Funkhouser moved that the provisions be considered separately. Seconded and carried.

The Secretary read the amendment to the Constitution, introduced at the last annual meeting, as follows:

Amend Article IV, Section 2, of the Constitution entitled Members, by inserting after the word "be" in the second line, the words "such of," and after the last word of the section add the words "as shall be approved by this Association," so that the section shall read:

Article IV, Section 2, Members. The members of this Association shall be such of the members of the component county societies as shall be approved by this Association.

Dr. F. J. Lutz moved the amendment be adopted. Seconded and carried.

The President announced that the proposed amendments to the By-Laws would lie over one day.

Dr. F. J. Lutz, chairman of the Committee on Cancer, reported progress.

The President announced the following Committee on Nominations:

J. H. Elliott, chairman, Twenty-Seventh District; D. C. Gore, Fourteenth District; J. G. Moore, Ninth District; S. A. Johnson, Twenty-Eighth District; J. C. Nunn, Sixth District; Franklin E. Murphy, Thirteenth District; H. S. Crawford, Fifteenth District; Guy Titsworth, Seventeenth District; Walter Baumgarten, Twentieth District; J. P. Burke, Sr., Eighteenth District.

The privilege of the floor was extended to the Secretary of the American Medical Association, Dr. A. R. Craig, who made a most interesting and instructive address, which was warmly received.

The Secretary read a proposed amendment to the by-laws of the American Medical Association as follows:

In all cases which arise between a constituent association and one of its component societies; between component societies of the same constituent association; between a member of a constituent association and the component society to which said member belongs; or between members of the different component societies of the same constituent association, the Judicial Council of the American Medical Association shall have appellate jurisdiction.

Dr. W. S. Allee moved that our delegates to the A. M. A. be instructed to support this amendment. Seconded and carried.

The Secretary read a communication from Dr. William Porter, a former resident of St. Louis and honorary member of the St. Louis Medical Society, who has been a member of our Association and of the A. M. A. for over thirty years, who has moved to Mississippi and practically retired from practice, requesting our Association to indorse him for affiliate membership in the American Medical Association.

Dr. M. A. Bliss moved that our delegates to the A. M. A. be instructed to indorse Dr. William Porter for affiliate membership in the American Medical Association. Seconded and carried.

Dr. Lutz announced that the Judicial Council would meet at 12 noon in Parlor F at the Robidoux Hotel.

The President read an invitation from the St. Joseph Veterinary Laboratory for the members to visit that institution while in the city.

On motion, the House adjourned to 3 p. m.

Afternoon Session

The House of Delegates was called to order by the President at 3:45 p. m.

The report of the Judicial Council was read by Dr. F. J. Lutz, chairman, as follows:

The Council indorses the recommendation of the President that a sinking fund be established, and recommends that \$1,000 be set aside for this purpose.

The Judicial Council recommends that a by-law be adopted which will give authority to component societies to discipline members who associate themselves with medical journals and institutions calculated to destroy the influence of the organized medical profession.

The Council has reappointed the Publication Committee, namely: Drs. W. H. Breuer, chairman; Scott P. Child, M. A. Bliss.

The Council has reelected Dr. J. Franklin Welch for Treasurer and Dr. E. J. Goodwin for Secretary and Editor.

It has elected Dr. F. J. Lutz chairman of the Council and Dr. E. J. Goodwin secretary of the Council. It has named the following to act as the Council's Executive Committee: Drs. F. J. Lutz, A. R. McComas, L. W. Cape and the President and Secretary of the Association ex-officio.

The Council has audited the books of the Treasurer and also the books of the Secretary-Editor, through a duly appointed committee, which found the books of both these officers in good condition and the accounts correct. The Secretary and Treasurer are both bonded.

On motion, the report was adopted.

Dr. F. J. Lutz moved that the sum of \$1,000 be set aside as a sinking fund. Seconded and carried.

The President appointed Drs. W. J. Ferguson, Guy Titsworth and S. A. Johnson a committee to draft resolutions on the death of Dr. S. G. Kelly of Sedalia, counselor of the Seventeenth District.

Dr. R. Emmet Kane read the following resolutions for the committee appointed at the morning session:

WHEREAS, The Missouri State Medical Association, in annual session assembled, has learned with deep regret of the illness of Dr. Walter B. Dorsett; and

WHEREAS, Organized medicine in Missouri owes much of its success to the long and faithful service he has rendered it; and

WHEREAS, His absence from this meeting is noticed for the first time in a quarter of a century; therefore, be it

Resolved, That this convention express to Dr. Dorsett its earnest solicitude for his health, its deep appreciation of the value of his contributions to its scientific programs and its gratitude for the sacrifices he has at all times been willing to make in the interest of its movements; and be it further

Resolved, That these resolutions be spread on the minutes of this Association and a copy forwarded to Dr. Dorsett.

ROBERT E. SCHLUETER.
FRANK J. LUTZ.
R. EMMET KANE.

M. A. Bliss moved the adoption of the resolutions, which was seconded and unanimously carried.

The President appointed Drs. R. M. Funkhouser, F. J. Lutz and R. Emmet Kane to draft resolutions on the death of Dr. William G. Moore.

Dr. A. R. McComas moved that a vote of thanks be extended to the Masons for the use of their magnificent building, and offered the following resolutions, which were unanimously adopted:

WHEREAS, We have been granted the gratuitous use of the magnificent building owned by the Scottish Rite Masons, in which to hold our annual meeting; therefore, be it

Resolved, That we deeply appreciate the courtesy thus extended to us, and in acknowledgment, we hereby extend a vote of thanks to the Scottish Rite Masons for their hospitality; be it further

Resolved, That these resolutions be spread upon the minutes of the meeting and a copy sent to the Scottish Rite bodies.

The President announced that the Nominating Committee was not ready to report, and that the House might proceed to the election of a President for the ensuing year.

It was moved and seconded that Dr. C. R. Woodson of St. Joseph be nominated. No other nomination was made, and a motion prevailed that Dr. Woodson be elected by acclamation, and the Secretary instructed to cast the ballot of the Association for Dr. Woodson as President for the ensuing year.

The Secretary cast the ballot as instructed, declaring Dr. Woodson the unanimous choice of the Association for President.

The Secretary read an invitation from Swift & Co. for the members to visit their plant.

Dr. W. S. Allee moved that Swift & Co. be extended the thanks of the Association for their courtesy, and

informed that if agreeable a party planned to visit the plant at 5 o'clock this afternoon. Seconded and carried.

Dr. C. R. Woodson was called to the platform, and in response to the invitation to address the House, expressed his appreciation of the honor the Association had conferred on him.

Dr. J. H. Elliott, chairman of the Committee on Nomination, reported for the committee as follows:

The Nominating Committee met in the committee room at the Robidoux Hotel, the full committee in attendance. Dr. Franklin E. Murphy was appointed secretary of the committee. The following nominations were made: vice presidents, Guy B. Mitchell, Branson; Chambers B. Clapp, Moberly; Alfred E. Monroe, Sedalia; Byron B. Potter, Lancaster; Rush E. Castelow, Kansas City. Councilors: Second District, Oliver C. Gebhart, St. Joseph; Third District, George W. Whiteley, Albany; Fourth District, James R. Bridges, Kahoka; Sixth District, A. C. Crank, Canton; Seventh District, Jacob D. Smith, Shelby; Eleventh District, George W. Hawkins, Salisbury; Twelfth District, Spence Redman, Platte City; Seventeenth District, William J. Ferguson, Sedalia; Twenty-Third District, J. H. Timberman, Marston; delegates to the American Medical Association, R. M. Funkhouser, St. Louis; E. J. Goodwin, St. Louis. Member Council on Health and Public Instruction, R. M. Funkhouser. Defense Committee, R. E. Schlueter, chairman; W. B. Dorsett, R. Emmet Kane. Member Committee on Cancer, Rudolph Buhman, St. Louis; Frank J. Hall, Kansas City. Member Council on Medical Education, A. W. McAlester, Columbia. Member Committee on Vaccination, Joseph Grindon, St. Louis.

Dr. W. S. Allee moved the report be adopted. Seconded and carried.

The selection of the place of next meeting being the next order of business, Dr. J. H. Rothwell, on behalf of Clay County Medical Society, invited the Association to meet at Excelsior Springs in 1916. No other nominations were made, and on motion nominations were closed and Excelsior Springs was unanimously selected for the place of meeting for 1916.

The Secretary moved that a vote of thanks be extended to the Buchanan County Medical Society, the citizens of St. Joseph, the Commerce Club and the press for their cooperation in making the meeting a success, and to pastors of the churches for opening their pulpits to our members to address their congregations on public health topics. Seconded and carried.

Dr. W. S. Allee moved that the House of Delegates extend a vote of thanks to the members of the Association who assisted in the Health Sunday Lectures, and assure them of our appreciation of their courtesy. Seconded and carried unanimously.

Guy B. Mitchell moved that the House adjourn until 8:30 a. m. Tuesday. Seconded and carried.

Tuesday, May 11, 1915—Morning Session

The House of Delegates was called to order at 8:50 a. m., Dr. H. C. Shuttee, President, in the chair.

Dr. R. M. Funkhouser moved that the reading of the minutes of the previous session be dispensed with.

The Secretary read the amendment to the by-laws introduced at the morning session on May 10, as follows:

Amend Chapter 12, Section 5, by adding after the word "medicine," in line 6, the following: "Who shall apply on the prescribed form and subscribe for THE JOURNAL, paying the dues for the current year," so that the section shall read as follows:

Section 5. Each county society shall judge of the qualification of its own members, but as such societies

are the only portals to this Association and to the American Medical Association, every reputable and legally registered physician who does not support or practice or claim to practice sectarian medicine who shall apply on the prescribed form and subscribe for THE JOURNAL, paying the dues for the current year, shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Dr. F. J. Lutz moved the adoption of the amendment. Seconded and carried.

The Secretary read the second section of the proposed amendment as follows:

Amend Chapter 9, Section 1, by adding after the word "association" in line 4, the following: "Of which \$1 shall be credited to the subscription to THE JOURNAL for one year," so that the section shall read as follows:

Section 1. An assessment of three dollars (\$3.00) per capita on the membership of the component societies is hereby made the annual dues of this Association, of which one dollar (\$1.00) shall be credited to the subscription of THE JOURNAL for one year. The Secretary of each county society shall forward its assessment, together with its roster of all officers and members, list of delegates and list of nonaffiliated physicians of the county to the Secretary of this Association on or before December 31 in advance of each Annual Session.

Dr. W. S. Allee moved the adoption of the amendment. Seconded and carried.

Dr. F. J. Lutz offered the following resolution:

WHEREAS, The Missouri State Medical Association has set itself squarely against the pernicious custom of fee-splitting and has incorporated in its organic law an explicit prohibition of its practice; and

WHEREAS, This prohibition is equally binding upon each of the component societies, and the American Medical Association has incorporated in its principles of medical ethics a section placing the band of its approval upon this blot upon the escutcheon of our profession; therefore, be it

Resolved, That the House of Delegates calls the attention of all executive officers of both the State Association and the component societies to these facts and reminds them of their duty to enforce these laws; be it further

Resolved, That we appeal to the members of our component societies to live up to the high ideals of our profession which can have no part in the corrupt and corrupting business of fee-splitting.

R. Emmet Kane moved the adoption of the resolution. Seconded. Discussion by Drs. Kane, Lutz, Wright, Benham, Funkhouser, Allee, Schlueter, after which the motion was put and carried unanimously.

Dr. R. M. Funkhouser introduced the following resolution on the death of Dr. William G. Moore:

WHEREAS, It is with deep regret this Association learns of the death of a former President of this organization, Dr. William G. Moore of St. Louis, who for many years was wont to attend its meetings and was active in its affairs. He was a scholar, a well-equipped physician and a gentleman. We feel that his place cannot be well filled. Therefore, be it

Resolved, That a page in the minutes of this meeting be set apart to his memory and a copy of this resolution be sent to his widow and family.

ROBERT M. FUNKHOUSER.

R. EMMET KANE.

FRANK J. LUTZ.

On motion, the House of Delegates adjourned *sine die*.

REPORT OF COUNCILORS

Third District, Dr. G. W. Whiteley, Albany, counselor: The counties are not doing as much as they should do, which may be largely my fault, but it seems almost impossible to induce the societies to hold meetings. In Gentry County members do not attend the meetings when called. Harrison County is doing efficient work and DeKalb County includes nearly all the reputable physicians.

Gentry County Medical Society: Members in good standing, 17; 7 physicians in the county not members, of whom 5 are eligible.

DeKalb County Medical Society: Members in good standing, 8; 6 in the county not members.

Harrison County Medical Society: Members in good standing, 14; 23 physicians in the county not members.

Fifth District, Dr. E. E. Parrish, Memphis, counselor: Scotland County has done fairly good work the past year. During the winter months no meetings were held on account of the bad condition of the roads. The society is now planning to hold public meetings in different parts of the county, as we did some two years ago. These meetings were much enjoyed by the laity, and we have had many requests for our return. We have at this time eight active members. There are several physicians in the county who are eligible, but who do not take any interest in society work. We lost an active worker by removal to Iowa about a year ago. This society has made out and printed a yearly program which proves quite a help to each member in formulating his plans for future meetings. This society will, I think, do very good work the coming year.

Schuyler County is the live wire in this district. All eligible physicians in the county are members of the county society. Their meetings are held quarterly, with an average attendance of six. Papers are read or clinics presented at each meeting. Everything seems to be in good shape, with prospects of a continuance of the good work for the coming year.

Clark County has had one meeting during the last year, but all eligible physicians in the county are members of the county society. It is hard for the physicians in this county to get started off on the right foot; I think the trouble is more neglect than anything else.

Eighth District, Dr. L. W. Cape, Maplewood, counselor: The St. Louis County and Pike County societies are meeting monthly, the St. Louis County Society holding its meetings at Webster Groves, the Pike County Society in various places throughout the county.

The St. Charles County Society has the proud distinction of being on the honor list for prompt payment of dues.

All these societies are doing good work. Lincoln County has no organized society, and the Pike and St. Charles County societies have adopted the open-door policy toward her. Quite a few of the Lincoln County doctors have availed themselves of the privilege thus offered.

Ninth District, Dr. A. R. McComas, Sturgeon, counselor: Of the counties in the Ninth District, Audrain, has about the usual number of members, but the meetings are few.

In Boone County there are few meetings of the county society as a whole. In Columbia there is a club formed of members of the county society, which hold meetings every two weeks in the evenings, at which dinner is served and a program carried out. Each member is assigned in rotation and the assignment is announced ahead. This plan has worked well and the club has been doing good work for over a year. In the northern part of the county a similar club has been organized. The meetings are also to be held every two weeks. This club has missed a few meetings, but I believe will do good work.

Callaway County has a real county society, judging from the meeting of last June and subsequent reports. The members do not need artificial stimulation to get them to attend. The papers and clinics are numerous and of a high class. The discussions are snappy and full of interest. Each member accepts his assignment and takes part in the discussions. This society is second to none in the state.

Howard County has a good membership and misses very few meetings. There seems to be some misunderstanding on the part of some two or three members of this society as to their relations to the State Association, but I am hopeful that this may be adjusted satisfactorily.

Montgomery County maintains an organization of a few members, but the meetings are few. It has recently taken steps to hold regular meetings and will be more active in future.

Fifteenth District, Dr. H. S. Crawford, Harrisonville, counselor: Cass County Medical Society: Total membership, 30; eligible physicians, 9; noneligible physicians, 2; papers read during the year, 8; six meetings have been held during the year.

Johnson County Medical Society: Total membership, 18; eligible physicians, 12; noneligible physicians, 2; papers read during the year 11; ten meetings have been held during the year.

The interest in the county medical societies in this district appears to be about normal. There has been some good work during the year, and both Cass and Johnson counties are in good condition to do good work the coming year. I visited the Johnson County Society once during the year in company with the Secretary of the State Association, and a very interesting meeting was held with the members of the society in the afternoon and a public meeting at night, which was addressed by Dr. Goodwin. Cass County held no public meetings during the past year, but hopes to do so this fall.

Sixteenth District, Dr. E. N. Chastain, Butler, counselor: The Sixteenth District is composed of Bates, Vernon, Barton, Cedar and Dade counties and report of the separate counties is as follows:

Barton County: Eleven members in good standing; one meeting has been held this year.

Vernon County: Twenty-eight members in good standing; 3 doctors in county eligible but not members; four meetings were held during the year, with an average attendance of 23; number of clinics, operations, etc., before the society, 24; number of papers read, 13.

Bates County: Thirty-one members in good standing; 5 doctors in county eligible but not members; ten meetings held, with an average attendance of 11; number of clinics, etc., 24; number of papers, 20; lectures, 9.

Cedar County: Number of members, 11; eligible physicians, 12; five meetings have been held during the year, with an average attendance of 7, at which 12 clinics were reported. Meetings are held on the first Wednesday of each month and the society is in good condition.

Eighteenth District, Dr. Frank DeVilbiss, Tipton, counselor: Conditions throughout this district are about as last year. Regular quarterly meetings have been held in Moniteau County, with fair attendance and interest.

Miller County has not come to its usual standard of interest in society work, but have held two or three meetings.

Camden County has held no meetings so far as I know, but there are few doctors in the county and they are widely separated.

In Morgan County the same condition of apathy as heretofore exists. There are a number of doctors and I see no good reason why they cannot have an active society.

Twentieth District, Dr. F. J. Lutz, councilor: During the past year the meetings of the St. Louis Medical Society have been regularly held, with an average attendance of about 200. The scientific programs have been interesting and varied. Many opportunities were presented to the members for hearing distinguished physicians of this state and from other states on subjects of especial interest.

It is gratifying to report that the medical society has taken unusual interest in matters of public interest in which the medical profession was especially concerned. The various sanitary and health bills which have come up before our municipal legislature have been carefully watched, as the reports of the Public Health and Instruction Committee show. Members of the society have appeared before many committees to give expression of the profession's views on health matters and on sanitary regulations.

The paid-up membership of the St. Louis Medical Society in the State Association amounts to 669; the delinquents numbering 186. There is a small increase in the membership over last year. The society, however, has failed to discharge its obligations for the honor members, some thirteen in number.

Constant effort is being made to associate with the society more especially the younger men who enter the profession and such newcomers as are entitled to membership.

During the past year the value of membership in the society has been considerably increased by the transference by the St. Louis Medical Library Association of a library of some 16,000 volumes, which, together with the current medical periodicals on general medicine and the various specialties published in this country and abroad, make it a valuable asset which from an economic standpoint is being generally appreciated by the members.

It gives me great pleasure to officially inform the State Association that during the past year the St. Louis Medical Society has been the beneficiary of a valuable bequest on the part of Mrs. Franziska Bartscher, the enthusiastic mother of the late Dr. Hugo Bartscher, to whom she established a lasting memorial.

Franklin County is to be commended for holding meetings with considerable regularity under poor transportation facilities for a large number of the members. They have 24 members at present, a gain of 3 over last year. The members in this county, which seems to be the home of the chiropractor, are constantly forced to be on their guard against the irregular practitioner who seeks the protection of a licensed physician.

Twenty-Fourth District, Dr. T. W. Cotton, Van Buren, councilor: I visited the Wayne County Medical Society, October 31, and found it well attended and especially active and enthusiastic.

Carter-Shannon County Society has not been very regular in its meetings during the year; however, its organization has been kept up and we are expecting more interest this summer, with better condition of roads. Through the influence in a measure at least of the medical fraternity in Carter County, we were able to send to the legislature a representative who was in sympathy with such legislative measures as were endorsed by the regular medical profession, which we consider somewhat of an improvement over our former incumbent.

The Butler-Stoddard County Society has been in its usual healthy condition, so I understand, having held weekly meetings during the winter months, and is one of the best county societies in Southern Missouri.

On the whole, the medical societies of the twenty-fourth district are on fair footing, with harmony prevailing.

Twenty-Fifth District, Dr. T. T. O'Dell, Ellington, councilor: I have made no visits in this capacity, but through correspondence and incidental meetings with

physicians of adjoining counties, maintained a fair knowledge of the conditions.

Of the four counties in the district, St. Francois has the largest and best working society, having the advantage numerically and convenient transportation, they are by far the banner society of the district.

Iron County maintains its organization "on paper." It seems there might be an advantage in this society consolidating with St. Francois.

Washington County has not yet attempted to organize. Have recently talked to two physicians of that county and think if Dr. Lutz or Dr. Goodwin could arrange a date, an organization could be effected.

Reynolds County has regular meetings and fairly good attendance except during the winter.

Twenty-Eighth District, Dr. T. O. Klingner, Springfield, councilor: The Twenty-Eighth District is in pretty fair condition. I visited two of the societies last year, and found good attendance and excellent interest in society work at each. I did not attempt to organize Dallas County, but through the Polk County Medical Society we invited all eligible physicians in Dallas County to join the Polk County Society, for the present at least. Not one, however, availed himself of the opportunity. I am satisfied now that the thing to do is to attempt an organization in Dallas County, which I will try and do this year.

During the past year one suit for malpractice against two members of Greene County Medical Society has been concluded, with verdict for the defendant. This case has been in court for about three years. There is a suit pending at present against a member of the Webster County Society. Plaintiff has failed so far to file bond for the costs, and it is probable that the case will be thrown out of court at the May term. The society attorney, Mr. Roscoe Patterson, has been very active during the past two years defending the chiropractors, and for this reason I recommended to the Council that some other attorney, preferably Hon. T. J. Delaney, be employed to defend the members in this district.

The Greene County Medical Society has done excellent work the past year. The average attendance at the meetings was 76, about 35 per cent. of the membership. The society meets the second and fourth Friday evenings each month. The program is prepared for the year, thus giving the essayists ample time to prepare their papers. We have speakers of prominence from other societies frequently, which stimulates attendance and interest. There are quite a few eligible physicians in the county who are not members. They have been solicited for membership repeatedly, but it seems they are not greatly interested in society work.

MINUTES OF THE GENERAL SESSION

Morning Session, May 11, 1915—Scottish Rite Cathedral

The General Session was called to order by the President, Dr. C. H. Shuttee, at 9:30 a. m.

The President introduced the Rev. Dr. Murphy of St. Joseph, who delivered the invocation.

Dr. Murphy addressed the session and praised the Health Sunday program and urged that the work be continued.

Dr. J. A. McComb of Lebanon took the chair while the President was reading his annual address.

Dr. Shuttee resumed the chair and announced the first paper on the scientific program, "Rational Obstetrics," by Dr. George A. Aiken of Malta Bend. This paper was read by the author and discussed by Drs. W. J. McGill of St. Joseph, Charles H. Wallace of St. Joseph, A. E. Platter of Memphis, T. F. Lockwood of Butler, A. L. Gray of St. Joseph, T. G. Hetherlin of Louisiana, L. J. Dandurant of St. Joseph, E. A. Burkhart of Kansas City, C. T. Clark

of Kansas City, M. J. Farber of St. Joseph and Dr. Aiken in closing.

Dr. John M. Doyle of St. Joseph made an announcement of the entertainments arranged for the members and their friends. An announcement was also made of an invitation to visit the health exhibit and by the management of the State Hospital for the Insane to visit that institution at any time during the meeting.

The paper of Dr. Ola Putman of Marceline, entitled "Report of Cases of Pneumonia Treated with Rose-nov and Hektoen's Antigen," was read by the author. Discussion by Dr. C. L. Woolsey of State Hospital No. 2, and by Dr. Putman in closing.

Dr. J. W. Sherer of Kansas City read a paper on "Congenital Absence of the Crystalline Lens." Discussed by Dr. W. E. Shahan of St. Louis and Dr. Sherer.

Dr. J. H. Thompson of Kansas City read a paper on "Intra-Ocular Sarcoma, with Report of Cases." This was discussed by Dr. John Green, Jr., of St. Louis.

On motion the session adjourned at 12 noon.

Afternoon Session—May 11, 1915

The session was called to order by the President, Dr. H. C. Shuttee, at 1:30 p. m.

The President announced the first paper of the afternoon, "Essential Hemorrhage from the Uterus," by Dr. Charles H. Wallace of St. Joseph. The paper was read by the author and discussed by Dr. Potter of St. Joseph and Dr. John G. Shelton of Kansas City. Dr. Wallace closing the discussion.

The paper of Dr. James P. Henderson of Kansas City on "Renal Tuberculosis," and the paper of Dr. C. E. Burford of St. Louis on "Kidney Tuberculosis, with Special Reference to Some Inoperable Cases," were discussed together by Drs. E. G. Mark of Kansas City, J. L. Byrne of St. Joseph, B. A. Poorman of Kansas City, N. P. Wood of Independence, and Drs. Henderson and Burford in closing.

Dr. C. M. Nicholson of St. Louis followed with a paper on "Unilateral Renal Hematuria." The paper was discussed by Dr. W. J. Frick of Kansas City, L. T. Dunaway of Eldorado Springs, L. L. Bode of St. Joseph, Jacob Geiger of St. Joseph, E. G. Mark of Kansas City, J. E. Dewey of Springfield, and Dr. Nicholson of St. Louis.

Dr. E. C. Wittwer of Mountain Grove read a paper entitled "By-Ways of Medicine," which was discussed by Dr. R. Emmet Kane of St. Louis, Dr. J. S. Wallace of Brunswick, Dr. W. S. Allee of Olean, and Dr. Wittwer in closing.

A paper on "Hodgkin's Disease" was read by Dr. George Ives of St. Louis. Discussion by Dr. W. W. Duke of Kansas City and Dr. Ives in closing.

The paper of Dr. Albert E. Taussig of St. Louis on "Some American Strophanthus Preparations," was read by title, as also the paper of Dr. R. D. Ramey of Garden City on "Applied Therapeutics," and the paper of Dr. C. F. Briegleb of St. Clair on "Bacterins or Bacterial Vaccines in General Practice."

Dr. V. P. Blair of St. Louis read a paper on "Factors of Safety on Goiter Operations," followed by Dr. Roland Hill of St. Louis, with a paper entitled "Surgery of Goiter." These two papers were discussed by Dr. W. T. Coughlin of St. Louis, and Drs. Blair and Hill in closing.

Dr. Benjamin Belove of Kansas City read a paper on "Research in the Mechanical Pathology of the Foot with Theoretical Suggestion of a More Rational Treatment," illustrated with stereopticon views. It was discussed by Dr. L. J. Dandurant of St. Joseph.

The program of this session was concluded by Dr. E. L. Cooley of St. Louis, with a paper entitled "Deformities of the Foot," which was illustrated with lantern slides.

The session adjourned at 5 p. m.

Morning Session—May 12, 1915

The session was called to order at 9 a. m. by the President, Dr. H. C. Shuttee, who announced the first paper of the program.

Dr. C. R. Woodson rose to a point of personal privilege, which was granted by the President. Dr. Woodson then addressed the session as follows:

"Gentlemen of the Association: My attention has been called to the fact that there is an objection to a one-line ad. that I have in the paper, 'Dr. Woodson, Nervous and Mental Diseases, 220 North 7th.' If this card is unethical, or if there is an individual member of this society who believes it is unethical, or if that card is objectionable to any individual member of this society, I am perfectly willing to take that card out of the paper; and if I serve as President of this society I will try to be as ethical as any man. I did not believe it was unethical when I put it there, but, as before stated, if it is objectionable to any individual I will cheerfully and willingly take it out."

Dr. R. Emmet Kane of St. Louis rose and addressed the chair. The President declared Dr. Kane out of order, and asked the Secretary to read the By-Law. The Secretary read as follows:

Chapter VII, Section 3.—Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual Councilor or component society. Its decision in all such cases shall be final.

Dr. Kane addressed the chair, but was declared out of order. Dr. Kane stated:

"Mr. President, you do not yet know whether I am out of order; you do not know what I am about to say."

The President instructed Dr. Kane to state his point.

Dr. Kane moved that this matter be referred to the Judicial Council. The motion was seconded and carried unanimously.

The first paper of the morning session on "Discrimination in the Use of Methods to Produce Surgical Anesthesia," was read by Dr. Ellis Fischel of St. Louis, and discussed by Dr. Willard Bartlett of St. Louis and Dr. H. S. Crossen of St. Louis, Dr. Fischel closing.

Dr. Ernest Sachs of St. Louis followed with a paper entitled "Factors That Make for Better Results in Cranial Surgery." This paper was illustrated by lantern slides and was discussed by Dr. Willard Bartlett of St. Louis, Dr. B. A. Poorman of Kansas City, and Dr. Sachs in closing.

The paper of Dr. W. G. Thompson of Holden on "Misleading Symptoms of Lesions of the Abdominal Viscera," was read by title.

Dr. Frank G. Nifong of Columbia read a paper on "Question in Dealing with Abdominal Adhesions." This paper was discussed by Dr. Herman E. Pearse of Kansas City and Dr. W. T. Coughlin of St. Louis.

Dr. William Engelbach of St. Louis followed with a paper on "Diagnosis and Treatment of Abdominal Ptoisis," illustrated with lantern slides. Discussions by Dr. A. E. Hertzler of Kansas City, Dr. B. T. Sharp of Kansas City, Dr. E. H. Skinner of Kansas City, Dr. R. McE. Schauffler of Kansas City, Dr. B. A. Poorman of Kansas City, Dr. O. H. McCandless of Kansas City, Dr. L. J. Dandurant of St. Joseph, and Dr. Engelbach, closing.

The paper of Dr. Fred B. Hall of St. Louis, entitled "X-Ray Study in Colon Stasis," was read by title.

Dr. H. S. Crossen of St. Louis read a paper on "Choice of Operation in the Various Classes of Cases of Retrodisplacement of the Uterus," illustrated with lantern slides. Discussion by Dr. C. Lester Hall of Kansas City. Dr. Crossen closing.

On motion, the session adjourned at 12 noon.

Afternoon Session—May 12, 1915

The Session was called to order at 1:30 p. m. by the President, Dr. H. C. Shuttee, who appointed Dr. Herman E. Pearse of Kansas City, and Dr. Willard Bartlett of St. Louis to escort the newly elected President to the rostrum.

Dr. Shuttee addressed the Session as follows:

"Gentlemen of the Missouri State Medical Association, I am sure that Dr. Woodson needs no introduction from me. You all know him. He is an old war-horse. He has fought the battles of this Association for years and has always been on the right side. I am sure that in placing the Presidency of this Association in his hands, you have put it in safe hands, in the hands of a man who with your assistance will give you the most prosperous year in the history of your Association. Dr. Woodson."

Dr. Woodson said:

"Mr. President and Gentlemen: It is with some hesitation that I assume to wield this gavel in presiding over the deliberations of this body, one of the most eminent in the state of Missouri. In presiding over this Association, I shall do so in a spirit of fairness and shall endeavor to do justice to all. Every measure that is worthy of consideration and should be recognized by me shall be recognized promptly. While I deem it a high honor and a great privilege to be the President of the Missouri State Medical Association, the work of the Association depends on the body. If you will help me, we will make this year the successful year. If you will help me, we will improve the conditions of Missouri medical men. If you will help me, we will prepare and be ready to enact laws that will be of benefit to the public health and no detriment to the medical profession. While I may make mistakes, I assure you that if I do they will be mistakes of the head and not of the heart. I have been a busy man, not given to investigating the laws, but I will familiarize myself with those laws and with my duties and will exercise my office, as before stated, in a spirit of fairness. Gentlemen, again I thank you for the esteemed pleasure and privilege of presiding over a body of men as distinguished as the representatives of the medical profession of the state of Missouri."

Dr. Woodson then announced the first paper of the afternoon session, "Gastro-Enterostomy," by Dr. Herman E. Pearse of Kansas City. This paper was read by the author and discussed by Dr. Willard Bartlett of St. Louis.

Dr. C. W. Russell of Springfield followed with a paper entitled "Tumor of Carotid Body with Report of a Case." Discussion by Dr. J. F. Binnie of Kansas City, Dr. O. L. Castle of Kansas City, Dr. C. B. Francisco of Kansas City and Dr. Russell in closing.

Dr. W. J. Wills of Sedalia then read a paper on "Treatment of Syphilis." He was followed by Dr. Frank C. Neff of Kansas City with a paper on "Infantile Syphilis and Neosalvarsan." These papers were discussed together by Dr. T. M. Paul of St. Joseph, Dr. R. L. Sutton of Kansas City, Dr. William Frick of Kansas City, Dr. Geiger of St. Joseph, Dr. Wills closing.

The paper of Dr. Francis E. Wilhelm of Kansas City, on "Preventive Medicine in Obstetrics," was read by the author and discussed by Dr. B. W. Toothaker

of St. Joseph, Dr. E. A. Burkhardt of Kansas City and Dr. C. A. Potter of St. Joseph, the discussion being closed by Dr. Wilhelm.

The paper of Dr. P. H. Swahlen of St. Louis, on "Thrombosis in Obstetrical and Gynecological Practice," and the paper of Dr. John Young Brown of St. Louis, on "Will the Profession have to be Re-Educated on the Subject of Appendicitis," were read by title.

Dr. John D. Seba of Bland read a paper entitled, "Etiological Factors in Vomiting of Pregnancy and How to Overcome Them."

Dr. B. A. Poorman of Kansas City followed with a paper on "Empyema." This paper was discussed by Dr. F. H. Spencer of St. Joseph, Dr. E. M. Roseberry of Neosho, Dr. L. J. Dandurant of St. Joseph, Dr. J. M. Hale of Darborn, Dr. C. B. Francisco of Kansas City, Dr. W. T. Elam of St. Joseph, Dr. J. I. Byrne of St. Joseph, Dr. Poorman closing.

Dr. O. L. Castle of Kansas City read a paper on "Chronic Cystic Mastitis," with lantern-slide demonstrations. This paper was discussed by Dr. J. I. Byrne of St. Joseph, Dr. W. T. Elam of St. Joseph, Dr. L. J. Dandurant of St. Joseph and Dr. Castle in closing.

The paper of Dr. J. L. McDermott of Kansas City, on "Treatment of Epithelioma by Roentgen Ray," was read by the author and discussed by Dr. William Frick of Kansas City, Dr. Richard L. Sutton of Kansas City, Dr. C. G. Geiger of St. Joseph, Dr. McDermott closing.

Dr. Richard L. Sutton of Kansas City followed with a paper entitled, "The Symptomatology and Treatment of Alopecia Areata."

The paper of Dr. C. B. Francisco of Kansas City, "Early Management of Anterior Poliomyelitis," was read by title, as was the paper of Dr. Charles C. Geiger of St. Joseph, entitled, "The Modern Treatment of Fractures."

Dr. E. J. Goodwin made the following motion:

"I move that a vote of thanks be extended to the ministers for allowing our members to occupy the pulpits and deliver lectures on public health topics, to the Buchanan County Medical Society, the Commercial Society and the citizens, for their courtesies, entertainments and interest in our work, and to the press for the liberal publication given to our efforts to instruct the people in the conservation of the public health."

On motion the meeting adjourned *sine die*.

REPORT OF THE DEFENSE COMMITTEE

Your Committee on Defense begs to report that it handled thirty-seven cases since the last annual meeting. These may be classified as follows:

Threatened suits which were not taken to court....	9
Suits which were settled by adjustment of doctor's bills	3
Suits which terminated by a verdict for the defendant	8
Suits which terminated by a verdict for the plaintiff	(\$50) 1
Suits which are still pending.....	14
Suit which is still pending after one mistrial.....	1
Suit withdrawn by plaintiff.....	1

37

It is impossible to estimate the actual number of cases which involved members of our Association. Many members appear content to defend such charges without our assistance, relying for the most part on their personal friends and those experts which their attorneys might select. This committee, with the aid

of the councilors of the various districts, is convinced that it is better able to choose experts than the average lawyer or doctor. Then again, these cases are often of great importance to the profession at large, and should be conducted for the common good, not only to the convenience of the individual or his attorney. Therefore, we insist that it is the duty of every member to notify this committee of every demand in malpractice that is made on him. By this means only can this committee serve the Association and its members to the fullest extent.

We are also prepared to give advice concerning insurance corporations which offer protection policies to the medical profession, and should be pleased to have more inquiries on this question from our members.

Wherever it was practicable we have again followed the plan of the previous year, of having each councilor take charge of all cases in his district. We believe this gives the best service; but must state that a few councilors are rather slow in their correspondence. We have, however, had no complaint from any member, so we take it for granted that they are more prompt in their management of the local affairs.

On the whole, we feel very grateful to the members of the Judicial Council for aiding and cooperating in the work of this committee. Much of our success is due to their efforts.

We also express our thanks and appreciation to the Secretary of the Association, as well as Drs. F. J. Lutz and R. M. Funkhouser, for their valuable counsel in disposing of the many problems which have confronted us during the year.

FINANCIAL STATEMENT

Balance on hand May 14, 1914....	\$1,783.29	
Transferred from General Fund May 14, 1914.....	1,500.00	
		\$3,283.29
Expended during the year.....		492.06
		<hr/>
Balance on hand April 30, 1915..		\$2,791.23

To this may be added the interest earned by this fund, and which will be reported by the Treasurer.

The \$100 limit, as provided in the by-laws which were adopted last year, has operated very well. Most of the money which we expended in the past fiscal year was paid on cases which were conducted under the previous defense provisions.

By our association with many cases, we have learned that the real cause of a claim for alleged malpractice does not always depend entirely on the essential points in the treatment. There are a number of other factors which have a distinct bearing in the instigation of charges in malpractice, although they have seemingly been disregarded. It is our aim to give all members the benefit of our experience gathered by more or less intimate connection with quite a series of cases. By giving publicity to this knowledge we believe it possible to prevent a certain number of malpractice suits.

Among other things, we have noted that it is usually unwise for a member of the profession to resort to litigation in the effort to collect a bill for professional services unless the amount is quite large. If a doctor enters suit for his fee he should first be certain that the debtor can satisfy the judgment in the event of a termination in favor of the physician. Then he should remember that a counter suit asking compensation for alleged malpractice is a powerful weapon in the hands of the attorneys for a debtor. It is an easy matter to criticize the treatment of any case; and, even though the malpractice cannot be proven, the cost to the doctor will usually exceed the amount originally sued for. At the present day such a counter suit should be expected when a physician brings a suit to collect his bill. Unless the doctor is willing to defend such a charge he had better not prosecute his claim in court.

An appreciable number of malpractice suits might be prevented by the more general adoption of a more liberal policy in our professional relationship. We most strongly recommend to all members of the profession that they study Chapter II of the Principles of Ethics of the American Medical Association. It treats of the duties of physicians toward one another and toward the profession at large. Even though most of us believe our individual behavior is almost, if not altogether perfect, two or three readings of this chapter in each year and a little reflection on the ideas embodied therein, would bring us much nearer the ideal than we are at present.

We have aided in more than a few cases in which the charge of malpractice accrued from attendance given a patient at a time when the regular family physician could not be found. The family doctor usually enjoys the respect and confidence which is not yet accorded him who is called in emergency. Therefore, a patient who has received emergency treatment under such conditions should be turned over to his regular family physician as soon as it is possible. If the outcome is not ideal the patient and his immediate relatives are more likely to pardon the result when they have a kindly feeling toward the doctor. Such is not the case when they feel that he has continued to come when he knew or should have known that another man would have been more acceptable.

It is a poor policy to endeavor to hold the patronage of a patient or a family by any means other than providing the best possible treatment for any condition. When the suggested treatment does not meet with the approval of the sick one and his near relatives, it is better to withdraw from the case rather than continue in attendance. A practitioner assumes too great a responsibility when he treats a case after a fashion which is not in accord with his best judgment. Take for instance a case of suspected fracture or dislocation where the attending physician suggests a Roentgen-ray examination, but for certain reasons the suggestion is not accepted. This should immediately terminate that doctor's connection with the case. Every doctor should be master of the situation about each case, and he is unwise if he continues to wait on a case in the face of criticism, or when he knows that another doctor is preferred.

Medicine is not an exact science. In it there are practically no certainties. We are dealing at best only with probabilities. It should therefore be out of the question to take more chances than are absolutely necessary. The poverty of the afflicted is no excuse.

Consultations should be encouraged, and they are constantly growing in popularity. There are still, however, too many of us who do not resort often enough to this means of dividing responsibility and increasing the patient's chances for satisfactory recovery.

A highly important factor in instigating a malpractice suit is the attitude of a physician who attends a patient after another has been discharged. We should be doubly careful in our speech as well as in our gestures to those patients who have been previously attended by another doctor for the same ailment or condition. Many a threat or even a suit might be averted by guarding our words and our actions under such circumstances.

Let us be more considerate of others. It makes so much difference whether we are the preceding or the succeeding attendant, and every one of us may some day be the victim of such a circumstance. So it is not only well for us all to aid in bringing the number of malpractice suits to the minimum, but our best efforts should be expended in trying to prevent every unjust claim for malpractice.

Respectfully submitted.

WALTER B. DORSETT,
R. EMMET KANE,
ROBERT E. SCHLUETER, Chairman.
The Committee.

REPORT OF THE SECRETARY-EDITOR

The year has been quite placid, there having been no serious irruptions in the organization such as characterized the preceding twelve months. The county societies generally are holding meetings with fair regularity. Twenty societies have paid the state assessment for every member and an equal number have paid for all except one or two of their members.

Since the last annual session your Secretary has made twenty visits to county societies, accompanied by the president in several instances.

McDonald County was organized on January 15 by the councilor of the district, Dr. R. L. Wills, with six members.

On the request of the Buchanan County Medical Society and the councilor of the Second District, a new charter was issued to supersede the St. Joseph-Buchanan-Andrew County Medical Society.

An address by Dr. E. H. Higbee of St. Louis, one of the members of the St. Louis Medical Society, delivered before the St. Louis Railway Men's Club, and published in the Railway Men's magazine, criticized some of the methods of optometrists which brought a protest from the national optometry organization and a demand for an apology from the Railway Men's Club. The directors of the club sought information from your Secretary on the standing of optometrists who referred the inquiry to the Executive Committee. That body appointed a committee consisting of Drs. F. J. Lutz, R. M. Funkhouser and J. W. Charles to wait on the board of directors of the Railway Men's Club and present the information. This the committee did with the result that the club refused to apologize.

An amendment to the constitution and by-laws of the American Medical Association, proposed for adoption at the San Francisco session of that body in 1915, has been submitted to us for action. The amendment reads:

"In all cases which arise between a constituent association and one of its component societies; between component societies of the same constituent association; between a member of a constituent association and the component society to which said member belongs; or between members of different component societies of the same constituent association, the Judicial Council of the American Medical Association shall have appellate jurisdiction."

The Secretary has attended to the exhibits as in past sessions and according to the ruling established by the house. There are thirteen firms represented, the total income being \$360. The Thompson Malted Food Company, proprietors of the product Hemo which has been condemned by the Council on Pharmacy and Chemistry of the A. M. A., has been denied space in the exhibit hall. Since the Masons have donated the use of their magnificent building, the Scottish Rite Cathedral, I anticipate that all expenses of the meeting may be defrayed out of this sum. Proper acknowledgment should of course be extended to the Masons for their courtesy.

A member of one of the county societies sent a letter to numerous members of the organization offering 40 per cent. commission on all referred work. One of the recipients of the letter sent it to the secretary with a note stating that such conduct was contrary to the principles of ethics and of the by-laws of our Association. On receipt of the correspondence I submitted it to the Executive Committee. That body ordered a photographic copy of the offender's letter sent to the president of the county society of which he is a member for action. This was done and assurances have been received that charges would be pre-

ferred against the member. The original correspondence is on file in our archives.

The Washington University invited our Association to send a delegate to the exercises of dedicating the new buildings of the corporation. The Executive Committee appointed Dr. F. J. Lutz of St. Louis to be the delegate from our Association.

We have received a request from Dr. William Porter, an honorary member of the St. Louis Medical Society, formerly of St. Louis, now of Ocean Springs, Mississippi, and a member of the A. M. A. for over thirty years, to nominate him for Affiliate Fellowship of the A. M. A. In order to accomplish this object it will be necessary to instruct our delegates to the A. M. A. to nominate Dr. Porter for such membership.

E. J. GOODWIN, Secretary.

REPORT OF THE PUBLICATION COMMITTEE

THE JOURNAL has printed 544 pages of reading matter since May, 1914, almost 100 more pages than the previous volume contained. The St. Louis Medical Society has discontinued publishing their papers in their bulletin and has accepted the offer of THE JOURNAL to publish these papers with the discussion when furnished. The Washington University Medical Society sends us an abstract of its proceedings, and the St. Louis Surgeons' Club has requested us to publish their proceedings. We have invited all county societies to send us their papers and many of them are doing so.

The Cooperative Medical Advertising Bureau of the A. M. A. has been very successful in sending us new advertisements and the editor's attention to this department has brought in other new firms. Together we have increased the advertising income from \$3,293.09, May 1, 1914, to \$3,682.87, May 1, 1915, a gain of \$389.78. THE JOURNAL has this year paid for making cuts from illustrations accompanying original articles, obituaries, etc., and postage, freight and hauling are all greater than last year because of the increased number of pages. Notwithstanding the extra expense in giving our members a larger journal and a greater variety of reading matter, the advertising account shows a net gain for the year of \$314.16.

The committee cannot urge too strongly on the members that THE JOURNAL is a property which should be fostered and encouraged. It has become very influential and will grow in value and usefulness in proportion to the interest which the members manifest in this division of organization work.

We have been compelled to exercise great care in the conduct of THE JOURNAL so that it shall not be made the instrument of publicity for improper statements. Only by the most cautious handling of every phase of the work have we escaped legal entanglement.

FINANCIAL STATEMENT

By advertising account May 1, 1914,	
to April 30, 1915.....	\$3,682.87
To printing of twelve issues, May,	
1914, to April, 1915.....	\$2,714.72
Freight and hauling.....	207.57
Postage	416.42
Miscellaneous expense on Journal.	30.00
	<hr/>
	3,368.71
Net gain	\$ 314.16

S. P. CHILD,
M. A. BLISS,
W. H. BREUER, Chairman,
The Committee.

REPORT OF COMMITTEE ON SCIENTIFIC WORK

The Committee on Scientific Work has taken advantage of the new by-law placing the election of all officers, including the President, in the house of delegates and limiting the sessions of the house to the first day of the meeting, so that no scientific work has been scheduled for Monday, May 10.

The scientific program contains thirty-seven papers including the President's address. A member has been appointed to open the discussion on each paper and a short synopsis of each essay has been printed in the program.

The Council on Health and Public Instruction having arranged for our members to deliver lectures on public health topics in the churches, we decided to omit the usual public session of the Association at night. For this reason also the President's address will be delivered before the general body at the opening session of the scientific work.

If the sessions are opened on time and the members are ready with their papers we believe each one can be read and freely discussed without unduly prolonging the session.

Some members were willing to take part in the scientific work, but having failed to pay their dues they could not be so honored. Several others responded to the requests of the committee after the program had been filled and therefore they were omitted.

The committee has the assurance of every essayist that he will be present and read his paper at the time scheduled.

C. C. CONOVER,
W. T. COUGHLIN,
E. J. GOODWIN, Chairman,
The Committee.

REPORT OF COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

We have had a somewhat strenuous year at the session of the legislature, but the Association has been singularly free from entanglements and criticism of our attitude toward public health legislation. This is due largely to the splendid representation in the legislature from the ranks of the organized medical profession. The seven medical men who are members of the general assembly were a unit in fighting the optometry and chiropractor bills, the ones that were most objectionable to us and most persistently pushed by their advocates. Both the optometrists and the chiropractors maintained lobbies at Jefferson City and used every influence known to the experienced lobbyist to secure the passage of their bills.

In the house of representatives the optometrists worked with greater energy than at any previous session, but they failed to poll enough votes to carry their measure. When the bill (H. B. 762) was reported unfavorably by the Judiciary Committee, Mr. Hicks of Kansas City, who introduced the measure moved to place it on the calendar. The motion was lost by a vote of 59 yes, 63 no.

The chiropractor bill (H. B. 586) was reported without recommendation, which is regarded as an unfavorable report, but allows the bill a place on the calendar. It was engrossed by a vote of 55 yes, 45 no, and later passed by a vote of 74 yes and 56 no.

The chiropodist bill (H. B. 838) did not come to a vote.

In the senate the optometry bill was referred to the Committee on Eleemosynary Institutions and Pub-

lic Health, of which Dr. John S. Wallace, a member of the Chariton County Medical Society, was chairman. Notwithstanding many vigorous attempts by its sponsors to have it transferred to another committee regarded by the optometrists as being more favorable to their cause, Dr. Wallace's committee reported the bill unfavorably and it never came to a vote.

The chiropractor bill, after passing in the house, was sent to the senate and there referred to Dr. Wallace's committee, where it died. A public hearing was granted on the measure, but it was unnecessary for any of the members of the Council on Health and Public Instruction to be present at that hearing.

To the physician members of the general assembly must be accorded the lion's share of praise that these bills did not become laws, and especially do we owe our grateful acknowledgments to the senior member of the senate from our ranks for his watchfulness, his devotion to the interests of the public health and of the medical profession and his extensive influence with other members of the general assembly, Dr. W. S. Allee. But back of our senators and representatives lies the influence of the county societies, without whose harmonious and militant opposition to bad bills no member of the general assembly could cope successfully with the seekers after special legislation invading the field of medicine. It is therefore with expressions of the profoundest appreciation that the Council directs the attention of the members to the prompt, effective and intelligent efforts of the county societies and of individual members to enlighten legislators on the real purposes of the bills we opposed. To these influences we may add that the optometrists, toward the end of the session, used methods that proved our opposition was well founded and turned some of the members against them who previously had been friendly to their cause.

The public health lectures under the auspices of the county medical societies have been continued and quite a number of such lectures have been delivered by our members.

At the state fair a baby health conference was inaugurated and the fair board asked us to furnish the doctors to conduct the examinations. This was done and members of the Pettis County Medical Society, on our request, freely gave their time and service to this work.

The Council seized the opportunity presented by holding our annual session in St. Joseph to arrange a Health Sunday in the churches, and requested the pastors to open their pulpits for members of our Association to address their congregations on health conservation. Twenty pastors responded, two of them requesting speakers at both the morning and evening services, thus affording us the opportunity to provide for twenty-two lectures. The Commerce Club of St. Joseph also asked for a speaker at their luncheon hour on one of the days of our meeting.

The Harrison law regulating the sale and distribution of narcotic drugs has caused some discussion among the members, but nowhere has there been opposition to its operation when its purposes have been understood.

When the law went into effect the status of osteopaths was not understood by the collectors of the internal revenue in Missouri, and on inquiry from your Council the collector at St. Louis referred the matter to the attorney-general of the state, who ruled that osteopaths were not practitioners of medicine under the statutes and therefore not entitled

to handle the narcotic drugs affected by the Harrison law.

We asked the Committee on Scientific Work to publish in the program the schedule of churches and speakers at St. Joseph, and also to publish the comparative vote in the house of representatives on House Bills 762 and 586. This has been done and the information doubtless will furnish some food for thought, as well as give impetus to activities between now and the next election for representatives.

The optometrists blame their defeat on the strength of our organization and our constant opposition to their bill. Only continued and united action in the future will preserve the integrity of our medical laws. We urge our members, therefore, to continue in their loyal and unflinching support of the Association and its committees.

The special thanks of the Association are due to the following physician members of the general assembly and to many other representatives and senators for their influence in preventing the passage of bills destructive of the health interests of the people and for the passage of other bills calculated to improve health conditions. The physicians are: Senators W. S. Allee, Olean; John S. Wallace, Brunswick; Lee Welch, Mountain View. Representatives J. A. Waterman, Breckenridge; Thomas B. Cook, Rayville; Guy B. Mitchell, Branson; J. R. Womack, Houston. To these should be added Dr. G. T. Myers, Mack's Creek, secretary of the Camden County Medical Society, who was Senator Yancey's clerk and gave his services to the Council from time to time.

A. W. McALESTER, JR.,
R. M. FUNKHOUSER,
A. R. McCOMAS, Chairman.
E. J. GOODWIN, Secretary,
H. C. SHUTTEE, President,
Ex-Officio,
The Committee.

HEALTH SUNDAY

The public health work of the Association took the form of lectures in the churches at St. Joseph. Twenty-four pastors invited speakers to fill their pulpits on Sunday, May 9, the First Lutheran Church requesting a speaker for both the morning and the evening services. In addition to these, the Y. M. C. A. and the Commerce Club asked that speakers be assigned to address their meetings, which was done. A total of twenty-seven lectures were delivered. Four of the speakers who consented to take part in the work were prevented from filling their appointments, but other speakers were provided from the reserve list. It is estimated that over 5,000 persons heard these lectures. The following were the speakers, with their subjects and the place delivered:

Copeland Baptist Church, 8 p. m., T. F. Lockwood, M. D.: "Superstitions; Maternal Impressions and Other Health Items."

Wyatt Park Baptist Church, 11 a. m., Woodson Moss, M. D.: "Preventive Medicine."

First Christian Church, 8 p. m., Jabez N. Jackson, M.D.: "Christian Responsibility to the Problems of Physical Welfare."

First Congregational Church, 7:30 p. m., G. Wilse Robinson, M.D.: "Fear and Anxiety a Cause of Mental and Physical Disabilities."

First English Lutheran Church, 10:45 a. m., A. W. McAlester, M.D.: "The Value of a Doctor."

First English Lutheran Church, Woodson Moss, M.D.: "Preventive Medicine."

Zion's Evangelical Church, 10:30 a. m.; Levi Long, M.D.: "Preventive Medicine."

First Methodist Episcopal Church, 8 p. m., E. W. Schauffler, M.D.: "Pulmonary Tuberculosis."

Francis Street Methodist Church, 10:45 a. m., C. H. Neilson, M.D.: "The Preservation of Health."

Hundley Methodist Church, 11 a. m., O. C. Gebhart, M.D.: "Tuberculosis."

Hyde Park Methodist Church, 8 p. m., E. H. Miller, M.D.: "Care of Children in School."

Olive Street Methodist Church, 7:30 p. m., H. C. Shuttee, M.D.: "Preventive Medicine."

Grace Methodist Episcopal Church, 7:30 p. m., Spence Redman, M.D.: "The Conservation of Human Life."

Wesley Methodist Episcopal Church, 7:30 p. m., Edwin H. Schorer, M.D.: "Diseases of Children."

St. Paul Methodist Church, 8 p. m., F. H. Matthews, M.D.: "Health and Morals."

Faith Presbyterian Church, 8 p. m., N. P. Wood, M.D.: "Better Living."

First United Presbyterian Church, 11 a. m., H. C. Shuttee, M.D.: "Preventive Medicine."

Second Presbyterian Church, 11 a. m., J. B. Wright, M.D.: "How to Live One Hundred Years."

Westminster Presbyterian Church, 8 p. m., George H. Hoxie, M.D.: "The Laws of Health."

First Reformed Church, 11 a. m., Scott P. Child, M.D.: "The Problem of the Feeble-minded."

Third Presbyterian Church, 8 p. m., William Frick, M.D.: "The Hygiene of the Skin in Relation to the Public Health."

First Presbyterian Church, 8 p. m., H. E. Pearse, M.D.: "The Welfare of the School Child."

First German Methodist Church, 8 p. m., C. R. Woodson, M.D.: "Conservation of Health from a Nervous and Mental Standpoint."

Savannah Avenue Baptist Church, 8 p. m., O. G. Gleaves, M.D., and J. T. Stamey, M.D.: "Tuberculosis."

Y. M. C. A., 6:30 p. m., R. M. Funkhouser, M.D.: "Eugenics and Social Diseases."

Commerce Club, 1 p. m., H. E. Pearse, M.D.: "The Welfare of the School Child."

MEMBERS REGISTERED AT THE FIFTY-EIGHTH ANNUAL MEETING, ST. JOSEPH, MAY 10, 11, 12, 1915

Adcock, J. A. B., Jefferson City
Aiken, G. A., Malta Bend
Allee, W. S., Olean
Allen, C. L., Cosby
Allen, W. H., Rich Hill
Alton, G. P., Gashland
Anthony, F. R., Maryville
Asher, J. A., Trenton
Austin, M. B., Brunswick
Babcock, B. W., Fortescue
*Bailey, William H., Savannah
Ballard, Emmett S., St. Joseph
Bansbach, Joseph J., St. Joseph
Barnet, A. D., Guilford
Bartlett, Willard, St. Louis
Baumgarten, Walter, St. Louis
Bazan, L. A., Moberly
Beard, F. G., St. Joseph
Beck, Leroi, St. Joseph
Bedford, S. V., Jefferson City

- Bell, Charles T., Maryville
 Bell, John M., St. Joseph
 Bellows, George E., Kansas City
 Belove, Benjamin, Kansas City
 Benage, O. C., Conway
 Benham, Charles E., Tarkio
 Bennett, Frank W., Plattsburg
 Berry, G. W., Montrose
 Binnie, J. F., Kansas City
 Blacklock, D. E., King City
 Blair, Edward G., Kansas City
 Blair, V. P., St. Louis
 Blakemore, W. H., Sheridan
 Bliss, M. A., St. Louis
 Boteler, George M., St. Joseph
 Boulware, T. C., Butler
 Bradley, W. E., Ethel
 Braecklein, W. A., Higginsville
 Branson, C. S., St. Joseph
 Broderick, David E., Kansas City
 Brooks, W. W., Stanberry
 Brown, C. A., Kansas City
 Brown, Tinsley, Hamilton
 Brummall, J. D., Salisbury
 Bruton, J. W., Ozark
 Bullock, F. E., Forest City
 Buren, Charles R., Princeton
 Burford, C. E., St. Louis
 Burke, John P., California
 Burkhalter, C. F., Higbee
 Burrill, C. W., Kansas City
 Burkhardt, E. A., Kansas City
 Butzke, E. J., Mountain Grove
 Byrne, John I., St. Joseph
 Callaway, L. H., Nevada
 Calvert, Lewis C., Weston
 Capell, Clarence, Kansas City
 *Carlyle, L. P., Chula
 Carpenter, E. H., Helena
 *Cary, W. E., Kansas City
 Carpenter, G. W., Utica
 Castelaw, R. E., Kansas City
 Castle, O. L., Kansas City
 Chaffin, Elizabeth, Stanberry
 Chaffin, Robert E., Stanberry
 Chambers, J. Q., Kansas City
 Chastain, E. N., Butler
 Clark, H. M., Platte City
 Clapp, C. B., Moberly
 Clark, W. A., Jefferson City
 Clark, W. J., Maysville
 Coats, C. C., Pattonsburg
 Coffey, W. H., Kansas City
 Colson, J. R., Schell City
 Conard, J. W., St. Joseph
 Conrad, H. S., St. Joseph
 Cook, Emmet F., St. Joseph
 Cook, R. F., Carrollton
 Cook, F. L., Independence
 Cook, F. B., Rayville
 Cooley, Edward L., St. Louis
 Cope, J. Q., Lexington
 Coughlin, W. T., St. Louis
 *Craig, Alexander R., Chicago, Ill.
 Craig, T. B. M., Nevada
 Craven, Y. D., Excelsior Springs
 Crawford, H. S., Harrisonville
 Crockett, James A., Stanberry
 Crossen, H. S., St. Louis
 Crowson, Eugene L., Pickering
 Cuppaidge, G. O., Moberly
 Dandurant, Louis J., St. Joseph
 Danley, W. E., Avenue City
 Davis, C. B., Walker
 Davis, J. M., Craig
 Day, Hiram, Parnell
 Dean, L. E., Maryville
 DeVilbiss, E. F., Kansas City
 Dixon, C. H., Holliday
 Doolin, L. R., Gallatin
 Donaldson, Clyde, Kansas City
 Doyle, J. M., St. Joseph
 Dryden, U. C., Purdin
 Dunham, J. D., Pattonsburg
 Duke, W. W., Kansas City
 Dunkeson, E. B., Hatfield
 Dunaway, Louis T., Eldorado Springs
 Dunsmore, J. M., St. Joseph
 *Durham, S. L., Dearborn
 Edens, L. M., Cabool
 Edgell, O. K., Eolia
 Elam, W. T., St. Joseph
 Elkins, C. B., Springfield
 Elliott, James H., West Plains
 Eliscu, F., St. Joseph
 Engelbach, William, St. Louis
 Estill, W. G., Lawson
 Evans, C. L., Oregon
 Evans, R. A., Cainsville
 Farber, M. J., St. Joseph
 Fassett, Charles W., St. Joseph
 Ferguson, Joseph W., St. Joseph
 Ferguson, R. E., Elmo
 Ferguson, W. J., Sedalia
 Fischel, Ellis, St. Louis
 Fischer, J. G. W., Alma
 Fisher, Amos T., St. Joseph
 Forgrave, H. S., St. Joseph
 Forgrave, L. R., St. Joseph
 Forgrave, Paul, St. Joseph
 Forsen, J. S., St. Joseph
 Foster, Hal, Kansas City
 Francisco, C. B., Kansas City
 Frankenburger, J. M., Kansas City
 French, J. A., St. Joseph
 Freymann, A. A., Kansas City
 Frick, William, Kansas City
 Frick, William J., Kansas City
 Fulton, Frank, Kansas City
 Funkhouser, R. M., St. Louis
 Gaines, J. J., Excelsior Springs
 Gale, W. S., Osborn
 Gebhart, O. C., St. Joseph
 Geiger, Jacob, St. Joseph
 Geeslin, P. A., Kahoka
 Geiger, Charles, St. Joseph
 George, John Henry, Little Blue
 Gilliland, A. O., Cameron
 Girdner, W. M., Chillicothe
 *Glasgow, G. A., Rochester, N. Y.
 *Glasscock, S. S., Kansas City, Kan.
 Gleaves, O. G., St. Joseph
 Goetze, W. F., St. Joseph
 Good, Clarence A., St. Joseph
 Goodwin, E. J., St. Louis
 Gore, D. C., Marshall
 Gosney, C. W., Kansas City
 Grace, H. M., Chillicothe
 Gray, A. L., St. Joseph
 Gray, M. S., St. Joseph
 Gray, W. W., St. Joseph
 Gregory, W. S., St. Joseph

- Gummig, E. A., St. Joseph
 Gunn, A. J., Versailles
 Green, John, Jr., St. Louis
 Greenberg, Charles, St. Joseph
 Hale, Joseph M., Dearborn
 Hall, C. Lester, Kansas City
 Hall, Frank J., Kansas City
 Hall, O. B., Warrensburg
 Hamilton, Hugh D., Kansas City
 Hampton, J. R., Clinton
 Haning, H. P., Purdin
 Hansler, J. A., St. Joseph
 Harrellson, N. D., Kansas City
 Harrison, J. F., Mexico
 Hartigan, Frank X., St. Joseph
 Hawkins, G. W., Salisbury
 Hayden, John G., Kansas City
 Heddens, James W., St. Joseph
 Hedrick, Harold B., Kansas City
 Henderson, James P., Kansas City
 Herndon, A. S., Camden
 Hertzler, Arthur E., Kansas City
 Heryford, Jacob R., Pickering
 Hetherlin, T. Guy, Louisiana
 *Higgins, John K., Baltimore, Md.
 Hill, James A., Jefferson City
 Hill, Howard, Kansas City
 Hill, Roland, St. Louis
 Hiller, Frank B., Kansas City
 Hogan, F. E., Bigelow
 Hogan, J. L., Oregon
 Holbrook, R. W., Kansas City
 Holliday, J. W., Tarkio
 Holley, A. E., St. Joseph
 Hornback, J. T., Nevada
 Hoxie, George H., Kansas City
 Hughes, Marc Ray, St. Louis
 Hull, E. R., Camden Point
 Hull, W. S., Faucett
 Hunt, William J., St. Joseph
 Hunter, James A., Fairfax
 Hyndman, Charles E., St. Louis
 Ives, George, St. Louis
 Jackson, J. D., Marshall
 Jackson, Jabez N., Kansas City
 James, W. J., Excelsior Springs
 Janes, Vincent, Cameron
 *Johnson, Franklin G., Sheridan
 *Johnson, Franklin P., Columbia
 Johnson, William E., Warrensburg
 Johnson, S. A., Springfield
 Kampschmidt, A. W., Columbia
 Kane, R. Emmet, St. Louis
 Keller, J. H., Glenwood
 Kenney, W. L., St. Joseph
 *Kepford, A. E., Des Moines, Iowa
 Kerr, H. L., Crane
 Killion, H. A., Portageville
 Kimball, G. F., Dalton
 *King, H. B., Elmo
 Klingner, Thomas O., Springfield
 Kuhn, H. P., Kansas City
 Ladd, Fred H., St. Joseph
 Laning, J. H., Kansas City
 Lau, Gustav A., St. Joseph
 Lee, Herbert, St. Joseph
 Lemon, A. L., Otterville
 Leonard, P. I., St. Joseph
 Lichtenberg, Joseph S., Kansas City
 Lieuallen, R. O., St. Joseph
 Lindley, E. R., Stanberry
 Lockwood, T. F., Butler
 Loeb, H. W., St. Louis
 Long, Frank B., Sedalia
 Long, L. S., St. Joseph
 Longfield, T. J., Kansas City
 Lorie, A. J., Kansas City
 Ludwick, A. L., Kansas City
 Lusk, C. A., Butler
 Lutman, Harry N., Versailles
 Lutz, Frank J., St. Louis
 Lynch, Thomas J., St. Joseph
 *Major, Ralph, Kansas City
 Malotte, Karl R., Maryville
 Mairs, E. J., Laredo
 Manning, D. F., Marshall
 Mark, Ernest G., Kansas City
 Martin, W., Savannah
 Matthews, F. H., Liberty
 Maxwell, H. S., Hopkins
 McAlester, A. W., Columbia
 McAlester, A. W., Jr., Kansas City
 McAllaster, B. R., King City
 McArthur, A. W., Kansas City
 McColl, N. I., Hannibal
 McCallum, F. M., Kansas City
 McCandless, O. H., Kansas City
 McCandless, William A., St. Louis
 *McCarty, Virgil W., Kansas City
 McClanahan, J. M., Guilford
 McClanahan, J. W., Forest City
 McComb, J. A., Lebanon
 McComas, A. R., Sturgeon
 McConkey, C. M., Lathrop
 McDermott, J. L., Kansas City
 McDonald, Chett, Kansas City
 McGill, W. J., St. Joseph
 McGlothlan, A. B., St. Joseph
 *McLaughlin, C. W., Kansas City, Kan.
 McMichael, Austin, Rock Port
 Mays, J. W., St. Joseph
 Meade, Reginald H., Kansas City
 Merriman, C. S., Kansas City
 Miller, A. B., Macon
 Miller, Eugene A., St. Joseph
 Miller, E. H., Liberty
 Miller, E. L., Kansas City
 Miller, Edwin M., Mound City
 *Miller, I. N., Kansas City
 *Miller, T. C., Kansas City
 Miller, W. C., Labaddie
 Minton, W. H., St. Joseph
 Mitchell, Guy B., Branson
 Moore, J. G., Mexico
 Moore, M. H., Dearborn
 Morton, Daniel, St. Joseph
 Moss, H. E., Kansas City
 Moss, Woodson, Columbia
 Murphy, Franklin E., Kansas City
 Myers, Walter C., Savannah
 Nauman, O. W., Craig
 Neal, James Park, Kansas City
 Neilson, C. H., St. Louis
 Neff, Frank C., Kansas City
 Neff, Robert L., Joplin
 Newlon, J. S., Butler
 Nicholson, C. M., St. Louis
 Nifong, Frank G., Columbia
 Norberg, George B., Kansas City
 Norman, J. B., Tipton
 Noyes, Guy L., Columbia
 Nunn, J. C., Maywood

- O'Kell, O. C., Excelsior Springs
 Oliver, Everett A., Richland
 Ott, Charles W., Higginsville
 Osborn, J. F., Corning
 Overholser, M. P., Harrisonville
 Owens, J. F., St. Joseph
 Owens, J. H., Sweet Springs
 Owens, M. J., Kansas City
 *Ozias, M. M., Kansas City
 Packwood, S. D., St. Joseph
 Park, Henry, Knobnoster
 Parker, Elmer L., Excelsior Springs
 Parker, H. F., Warrensburg
 Paul, Thomas M., St. Joseph
 Paulett, A. W., King City
 Pearse, Herman E., Kansas City
 Peelor, E. C., Clinton
 Peters, M. L., Cameron
 Peterson, E. E., Nashua
 Pettijohn, A. C., Brookfield
 Pickett, C. P., Mercer
 Pitts, Barton, St. Joseph
 Platter, A. E., Memphis
 Poorman, Bert A., Kansas City
 Porter, D. R., Kansas City
 Postlewait, J. A., Tarkio
 Potter, Caryl, St. Joseph
 Potter, T. E., St. Joseph
 Pound, J. B., New Boston
 Prentiss, H. S., Kansas City
 Price, R. P., Triplet
 Putman, Ola, Marceline
 Quigley, Byron T., Mound City
 Randall, Leslie, Licking
 Rea, Robert W., Plattsburg
 Redman, Spence, Platte City
 Reed, W. M., Kansas City
 Reid, H. L., Charleston
 Renaud, E. C., St. Joseph
 Revelle, C. A., Kansas City
 Reynolds, S. H., Maplewood
 Reynolds, W. B., Prairie City
 Reynolds, W. T., Kansas City
 Rice, J. W., Berlin
 Ridge, Frank I., Kansas City
 Robertson, J. Archie, Kansas City
 Robertson, C. H., Eagleville
 Robinson, J. F., Nevada
 Robinson, G. Wilse, Kansas City
 Rothwell, J. H., Liberty
 Rowell, Hayne, Kearney
 Roy, Frank K., Clarence
 Rush, G. B., Lathrop
 Russell, C. W., Springfield
 Russell, R. Lee, Humansville
 Ryland, C. T., Lexington
 Sachs, Ernest, St. Louis
 *Sallis, D. B., Bedford, Iowa
 Sampson, J. H., St. Joseph
 Sanders, F. L., Kansas City
 *Sargent, D. A., Hopkins
 Saunders, L. E., Stewartsville
 Schaffler, Robert McE., Kansas City
 Schlueter, Robert E., St. Louis
 Schmid, O. A., St. Joseph
 Schofield, L. J., Warrensburg
 Seba, John D., Bland
 Senor, S. D., St. Joseph
 Sevier, R. E., Liberty
 Shahan, William E., St. Louis
 Sharp, W. L., Little Rock
 Sheetz, Robert, Orrick
 Sheldon, J. E., Kansas City
 *Shelton, G. W., Oneida, Kan.
 *Shelly, E. S., Atchison, Kan.
 Shelton, W. J., Dekalb
 Sherer, Joseph W., Kansas City
 Shuttee, H. C., West Plains
 Shy, M. P., Sedalia
 Simmons, B. B., St. Joseph
 Skinner, P., St. Joseph
 Skinner, E. H., Kansas City
 Smith, A. S. J., Dearborn
 Smith, J. E., St. Joseph
 Spencer, Floyd H., St. Joseph
 Stebbins, N. I., Clinton
 Steckman, P. M., Plattsburg
 Stevenson, G. R., St. Joseph
 Stratton, C. D., Rothville
 Summers, J. S., Jefferson City
 Sutter, Otto, St. Louis
 Sutton, Richard L., Kansas City
 Swaney, A. G., Lee's Summit
 Taylor, E. P., Fairfax
 Teachenor, Frank R., Kansas City
 Terry, Robert J., St. Louis
 Tesson, N. A. G., Kansas City
 Thomas, C. O., Worthington
 Thomason, H. E., Kansas City
 Thompson, J. H., Kansas City
 Thompson, Ralph L., St. Louis
 Thraikill, E. H., Kansas City
 Tiffany, F. B., Kansas City
 Timberman, John H., Marston
 Timerman, Arthur R., St. Joseph
 Titsworth, Guy, Sedalia
 Todd, J. H., Maryville
 Todd, L. A., St. Joseph
 Toothaker, B. W., St. Joseph
 Tuttle, H. W., Adrian
 Varner, A. O., Union Star
 Wallace, Charles H., St. Joseph
 Wallace, J. S., Brunswick
 Wallis, W. M., Jr., Maryville
 Walton, J. H., Windsor
 Wasson, W. B., Nixa
 Waugh, C. M., Tarkio
 Welch, J. Franklin, Salisbury
 Welch, W. A., Callao
 *Wenger, E. S., Lincoln, Neb.
 West, W. M., Monett
 Wheeler, W. S., Kansas City
 Whipple, N. L., Kansas City
 *White, Edwin C., Kansas City
 Whittington, W. L., St. Joseph
 Wilbur, H. L., Granby
 Wilhelm, Francis E., Kansas City
 Williams, V. O., Nevada
 Williams, W. A., Hume
 Williamson, C. N., Gentry
 Willman, R., St. Joseph
 Wills, Robert L., Neosho
 Wills, William J., Sedalia
 Wilson, Dora Greene, Kansas City
 Wisser, J. J., St. Joseph
 Wittwer, Edward C., Mountain Grove
 Wood, N. P., Independence
 Wood, W. S., Oregon
 Woodson, C. R., St. Joseph
 Woolis, A. L., Darlington
 Woolsey, C. L., St. Joseph
 Wright, G. D., St. Joseph
 Wright, J. B., Trenton
 *Wyman, Charles W., Maitland
 Yates, D. D., Dawn
 Yeater, H. P., Maysville
 Zillman, A. W., Keytesville
 Total, 451.

BUCHANAN COUNTY MEDICAL SOCIETY

The Buchanan County Medical Society held its regular meeting June 2, the president, Dr. J. F. Owens, in the chair. There were twenty-eight members present.

The minutes of the special meetings of May 17 and 24 were read and approved.

A communication from Dr. J. B. Norman, Tipton, Mo., addressed to Dr. C. R. Woodson, relating to the action of the Judicial Council in declaring against Dr. C. R. Woodson, was read and the secretary was instructed to acknowledge the receipt of this communication.

The following resolution, introduced by Dr. W. L. Kenney, was referred to the Public Health and Legislation Committee for their investigation and to report at our next meeting:

Resolved, That our Public Health and Legislation Committee be instructed to write our hospital inquiring what will be their attitude in regard to observing the state laws concerning the administration of anesthetics by other than registered physicians; and in the event of unfavorable reply they are instructed to file information with the prosecuting attorney.

Amended that the Public Health and Legislation Committee shall look up the law and report at the next regular meeting.

Dr. Daniel Morton made a report of the Committee on Arrangements for the State Meeting and the secretary and treasurer were instructed to have their report complete by the next regular meeting.

Dr. Beck reported a case of abuse of the Harrison antinarcotic law, but as the offending doctor is not a member of this society it was decided that we had no jurisdiction in the matter and it should be taken care of by the federal authorities.

A clinical case was presented by Dr. W. L. Kenney, entitled, "Traumatic Injury of the Eye without Cataract Formation."

Dr. Jacob Geiger reported a case of "Extracritoneal Lipoma."

Dr. Caryl Potter reported on a case of "Cervical Rib" which was presented to the society about eight months ago with the information that the radial pulse had reappeared and the circulation in the arm reestablished.

Dr. J. T. Stamey read a paper entitled "The Use and Abuse of Pituitrin in Obstetrics," which was discussed by Drs. Lynch, Byrne, Owens, Woodson and Beck, Dr. Stamey closing.

W. F. GOETZE, M.D., Secretary.

CALLAWAY COUNTY MEDICAL SOCIETY

The regular meeting of the Callaway County Medical Society was held in Fulton, June 10, with Dr. R. N. Crews, president, in the chair. Those present were: Drs. Crews, Owen, Christian, Major, McCall and Yates. Visitors: Dr. E. E. Evans, Fulton and Dr. A. J. Courshon, Williamsburg.

Dr. Evans of the State Hospital for the Insane read an interesting and instructive paper on the treatment of the opium habit. He emphasized institutional care for such cases and advocated the gradual withdrawal of the drug. In the discussion which followed the immediate discontinuance of the drug was favored by some.

The application for membership of Dr. A. J. Courshon of Williamsburg was favorably reported by the Credentials Committee and he was unanimously elected to membership.

M. YATES, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its regular monthly meeting at Cape Girardeau, June 14, with seven members present.

Reports from the Secretary of the State Association, Dr. Goodwin, in relation to his instructions from the Judicial Council in the matter of their differences with Dr. Woodson, were read, and on motion filed, after considerable discussion.

Dr. G. D. Seibert reported cases of trichiniasis in which eleven in the household were infected and only two died. The description of the cases was very clear and showed a great interest had been taken in the work by the doctor, and we regret that so few were present to hear this report.

Dr. W. N. Howard read a paper on "Diarrheal Conditions in Children." He outlined his mode of treatment and showed it is impossible to have any fast rules for treating these cases.

Dr. R. P. Dalton reported a case of a man in town giving treatment for tuberculosis who wanted to use his name in connection therewith. It was the sense of the members present that the doctor could not do this without violation of the code of ethics.

No further business, society adjourned.

E. H. G. WILSON, M.D., Secretary.

CARTER-SHANNON COUNTY MEDICAL SOCIETY

The Carter-Shannon County Medical Society met at Van Buren, May 19, in regular session.

The following subjects, taken from regular practice, were discussed by the doctors present:

Pneumonia complicated by miscarriage; convulsions in a new-born infant; clinic by Dr. T. W. Cotton, rheumatism of some months standing in a young lady; patient now convalescing.

Dr. O. L. Rutherford of Winona and Dr. H. L. Meador of Garwood were visitors.

Dr. Wm. Thomas Eudy of Koller and Dr. W. N. Deatherage of Birchtree were elected to membership in the society.

J. A. CHILTON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville June 10. The following members were present: Drs. T. W. Adair, H. S. Crawford, A. R. Elder, R. M. Miller, R. D. Ramey, B. B. Tout, J. S. Triplett and R. P. Yeagle. Dr. R. D. Ramey, vice president, presided.

Dr. R. P. Yeagle read a paper on "Chronic Appendicitis and Pregnancy." He reported several very interesting cases in connection with his subject and all present took part in a free discussion of the paper.

Dr. H. S. Crawford, the delegate to the State Medical Association, and councilor of the fifteenth district, made a report of the proceedings at St. Joseph and also the subsequent meetings of the Judicial Council. The members of the society discussed some of the matters, and it was the general consensus of opinion that the publishing of business cards be discouraged.

Dr. R. M. Miller of Belton made application for membership and the board of censors reporting favorable he was elected to membership.

The Cass County Society is in a flourishing condition and the secretary hopes to enroll all eligible physicians in the county this year as members of the society.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY

The Clay County Medical Society met May 31 at the Snapp Hotel in Excelsior Springs, with Dr. G. R. Dagg, vice president, in the chair.

Dr. W. E. Keith of Excelsior Springs read an interesting paper on "Tobacco as a Causative Factor," which was replete with facts about the "weed," giving its effects on the nasopharyngeal and auditory nerves. The doctor thought chewing least harmful, owing to the saliva neutralizing the poison of tobacco, and expectoration throwing it out of the mouth before active poisoning could occur. The paper was discussed by Dr. F. H. Matthews of Liberty, who commended the paper highly and believed tobacco harmful in direct proportion to the susceptibility of the individual. The doctor spoke feelingly of his first cigar.

Considerable debate followed concerning the great number of irregular practitioners at Excelsior Springs, a condition which is growing formidable.

Members: It is an important matter that you attend meetings of the society. Medical men should be incapable of forgetting. Two hours a month spent in the medical society work is not a waste of valuable time. Our profession is a high calling and its requirements should be a religious matter with us. Please do not forget the next meeting. You owe this to your patrons and to your fellow workers.

J. J. GAINES, Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in regular session at Windsor, Wednesday, June 9, at 2 p. m. President J. R. Wallis calling the meeting to order, and the following were present: Drs. Wallis, Gibbins, Head, Blackmore, Peelor, M. P. Bradley, Finley, Hampton, Wall, Jennings, Walton, Poague, Shankland, McNees, Campbell, Stebbins, Douglass, Shadburn and Rudleck. The minutes of the previous meeting were read and approved.

Dr. H. M. Wall presented a case for examination of a boy 23 months old with a large left leg. The mother first noticed that the toe and foot were swollen when the child was 10 days old. There was no pain, but the swelling increased and she called a doctor. No treatment was given and the leg continued to enlarge until at 3 months the swelling had extended up to the knee; still no discomfort. A skiagraph was made of both legs at this time, but no difference in the bones noticed. Now the left leg is one-half larger than the right. The boy walks and plays, using each leg the same.

Dr. T. A. Blackmore thinks it a blockage of the lymph channels, causing increased growth and not true elephantiasis. Dr. J. W. Walton thought the lymphatics are being obstructed and the soft tissues growing with the increased amount of nourishment. Dr. Shadburn that it is an increased cell formation due to a larger number of leukocytes, causing increased nutrition. Dr. M. P. Bradley said it is a normal growth; the same relative condition will exist ten years from now.

Dr. T. A. Blackmore read a paper on "Suppuration of the Kidney," giving the histology and etiology of the condition thoroughly, also the newest thought about the inflammatory process, going into the treatment as now used, and his thought of what and when surgical interference should come in.

Dr. J. H. Walton complimented the writer as having treated the subject so well he left nothing to be said; however, he believed young girls infect the urinary passage with bacteria from the bowel by the act of wiping, and they should be cautioned, as no other cause could be found for the infection in numerous cases. He believes the autogenous vaccines give

best results. Dr. Blackmore, in closing: At the present time I am treating a little girl who I believe was infected in the act of wiping, and I agree with Dr. Walton that it is our duty to warn them.

Dr. J. H. Walton made a report as delegate of what had been done at the St. Joseph meeting of the State Association, and about the election of officers, and that the chairman of the Defense Committee had instructed the delegates to tell their societies that great care should be used in entering suit against a client for his bill, because many were not responsible and would enter a counter suit for a trivial damage to offset the claim; and had related cases where the physicians were nonsuited by these methods. Had heard a number of surgeons tell of ruptures of the ovarian neck and perineum from the too early use of the pituitary extract in labor, they claiming great care should be observed in its use.

Dr. N. I. Stebbins presented the subject, "Some Diseases of the Duodenum," and complications involving the parts. He described the parts and their relations anatomically and how affected, and detailed the cases that would require surgical interference and the reasons, why, giving statistics.

Dr. McNees: About 60 per cent. of ulcers of the tract get well with little treatment, and I believe it is easy to recognize duodenal ulcer early. I think the so-called hunger pain to be pathognomonic of duodenal ulcer. Complications are due to infections.

Dr. Rudleck: I call the paper an excellent one. All continued cases of dyspepsia should be examined very closely, put them through the different tests—hunger, urinary, fecal and blood—to determine the true character of the infection. Pain at night in the abdomen, which is relieved by a pinch of soda or other saline, is a sure sign; vomiting of blood not a dangerous symptom. Not much treatment necessary.

Dr. Stebbins, in closing: Mild cases are not thought of; only the severe ones. Dr. Murphy claims that the patient can, by putting his finger on the painful spot, locate the ulcer, and which is gastric or duodenal.

A vote of thanks to the doctors of Windsor for their entertainment was unanimously adopted.

F. M. DOUGLASS, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society met at Galena, Mo., June 1. The following members answered to roll call: Drs. F. S. Stevenson, C. A. Moore, R. C. Robertson, T. D. Miller, W. S. Loveland, J. W. Smith, R. W. Smart, J. H. Wade, St. Clair Shumate, L. Henson and J. P. Baird.

Dr. Herman E. Pearse of Kansas City, Drs. T. A. Coffelt and S. A. Johnson of Springfield and Dr. Scott of Marionville were guests.

This meeting was open to the public and several members with their families took their dinners and all enjoyed a sumptuous feast at the noon hour.

Dr. Pearse of Kansas City delivered a very interesting lecture on "Teacher, Parent and Doctor—Their Relation to the Schoolchild's Health."

Dr. S. A. Johnson of Springfield gave an excellent lecture on "Heredity as Applied to Nervous and Mental Diseases."

Mrs. Chas. McCord of Galena gave a reading which was prepared especially for the occasion and was enjoyed by all.

Mr. R. C. Porter of Galena read a paper on the great things that had been accomplished by the profession. He also invited the society to return to Galena at any time they could do so.

The next meeting will be held at Aurora, September 7.

R. C. ROBERTSON, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

CEPHAELINE.—An alkaloid obtained from ipecac. It is relatively more emetic and less nauseant than ipecac and causes more renal irritation and less cardiac depression. It may be used as an emetic and expectorant. It is insoluble in water, but forms water soluble salts.

SYRUP CEPHAELINE, LILLY.—A non-proprietary preparation containing cephaeline hydrochloride, equivalent to 2/5 grain cephaeline per fluidounce. Eli Lilly & Co., Indianapolis, Ind. (*Jour. A. M. A.*, June 19, 1915, p. 2067).

OUABAIN AMPULES, H. W. & Co.—Each ampule contains 0.5 mg. crystallized ouabain. Hynson, Westcott & Co., Baltimore, Md. (*Jour. A. M. A.*, June 19, 1915, p. 2067).

PROPAGANDA FOR REFORM

TANLAC.—Tanlac (The Cooper Medicine Co., Dayton, O.) is a "tonic and system purifier" and is exploited to the public by means of extravagant and absurd claims. From an examination made in the A. M. A. Chemical Laboratory it appears that Tanlac is essentially a vinous extract which contains 15.7 per cent. absolute alcohol by volume, a bitter drug (such as gentian), an emodin-bearing drug (such as buckthorn, rhubarb or cascara), a berberine-bearing drug devoid of hydrastine (such as berberis aquifolium), glycyrrhizic acid (from licorice), and is flavored with wild cherry and to which has been added a relatively large proportion of glycerin. The "Tanlac Laxative Tablets" which accompany Tanlac contained phenolphthalein (*Jour. A. M. A.*, June 5, 1915, p. 1930).

E-LEP-TINE.—E-Lep-Time is an "epilepsy cure." According to the Indiana State Board of Health, it contained sodium and potassium bromides 16 per cent. alcohol and ammonium valerate (*Jour. A. M. A.*, June 12, 1915, p. 2006).

HERBETTA CURINE.—A package of Herbetta Curine contained three envelopes, labeled 1, 2 and 3, respectively, and in addition a number of red tablets. The A. M. A. Chemical Laboratory found that No. 1 consisted of tablets which contained soluble iron phosphate; No. 2, of tablets which contained some "bitter tonic," and No. 3, of tablets responding to tests for aloes or aloin. The red tablets were composed essentially of strontium and potassium bromide (*Jour. A. M. A.*, June 12, 1915, p. 2006).

LEPSO.—The A. M. A. Chemical Laboratory found this to contain bromides, equivalent to 51 grains potassium bromide per dose of one-half ounce (*Jour. A. M. A.*, June 12, 1915, p. 2006).

IODEX.—Iodex (Menley & James, Ltd., New York), is said to contain 5 per cent. of iodine; the advertising suggests that the effects of free iodine are to be obtained from the preparation, which yet is said not to stain the skin. It is also claimed that thirty minutes after inunction, iodine can be found in the urine. The chemists of the A. M. A. Chemical Laboratory on examination found that Iodex contained only about half the claimed amount of iodine, that the iodine did not behave as free iodine and that after inunction of Iodex, iodine could not be found in the urine. Because of these findings and because of the unwarranted therapeutic claims made for the preparation the Council on Pharmacy and Chemistry held Iodex ineligible for New and Nonofficial Remedies (*Jour. A. M. A.*, June 19, 1915, p. 2085).

VENODINE.—Venodine (The Intravenous Products Co., Denver) was stated to be "an Intravenous Iodine Compound" put up in ampules, each of which contains "28 grains of Sodium Iodide, 1/8 grain each of Beechwood Creosote and Guaiacol in a suitable vehicle, and excipients to enhance its compatibility with the circulating blood." The "Therapeutic Indications" were said to include "infectious diseases, such as syphilis, tuberculosis, bronchitis, bacteraemias associated with chronic and acute nephritis (Bright's disease), and other infections." The Council on Pharmacy and Chemistry found Venodine ineligible for New and Nonofficial Remedies because it was exploited under unwarranted and grossly exaggerated therapeutic claims; because neither the name nor the advertising matter indicated that it was a preparation of the well-known sodium iodide; and because the combination of two such similar substances as creosote and guaiacol is unscientific, adding mystery to the preparation without increasing its efficiency (*Jour. A. M. A.*, June 26, 1915, p. 2155).

CALCREOSE.—Calcreose (Maltbie Chemical Co., Newark, N. J.) contains in loose combination approximately equal weights of creosote and lime. The advertising claims having been revised, the Council on Pharmacy and Chemistry postponed definite action pending submission of proof (1) that the large doses of Calcreose recommended furnish large amounts of creosote to the blood and (2) that patients taking these large doses do not suffer from digestive disturbances, loss of nutrition, albumin in the urine or phenol urine as claimed. At the same time it was emphasized that this action did not indicate a belief on the part of the Council that enormous doses of creosote are necessary or beneficial in tuberculosis. So far, the Maltbie Chemical Co. has not submitted the required evidence. As the Council's postponement of a report has been made to appear as a quasi-approval, the Council voted to announce that Calcreose had been refused recognition because the therapeutic claims were exaggerated and unwarranted by the evidence (*Jour. A. M. A.*, June 26, 1915, p. 2155).

INTRAVENOUS RADIUM SOLUTION.—Standard Radium Solution for Intravenous Use (Radium Chemical Co., Pittsburgh) is sold in ampules, each containing radium bromide equivalent to 0.05 mg. radium element and 0.0002 gm. or less of barium bromide dissolved in 2 c.c. of sterile normal salt solution. While the Council on Pharmacy and Chemistry confirmed the claimed composition of this solution so far as concerns the radium content, it refused recognition to the preparation because there is no clear evidence that intravenous injection has any advantage over the other methods of administering radium. The Council holds that on the basis of our present knowledge radium should be used intravenously only by those in a position to study its effects carefully and in an institution equipped with the necessary facilities for such study (*Jour. A. M. A.*, June 26, 1915, p. 2156).

RHEUMALGINE.—Rheumalgine (Eli Lilly & Co., Indianapolis) is put up both in tablet form and as a liquid. Each tablet, or teaspoonful of the liquid, is said to contain "Strontium salicylate from Natural Oil 5 gr., Hexamethylenamin 2 gr., Colchicine 1/200 gr." The Council on Pharmacy and Chemistry found Rheumalgine in conflict with its rules in that unwarranted therapeutic claims were made; because the combination is conducive to uncritical prescribing and because the name, being non-descriptive of its composition encourages thoughtless use (*Jour. A. M. A.*, June 26, 1915, p. 2156).

TYPHOID VACCINE.—Extensive clinical trial indicates that typhoid vaccine may influence the course of the disease favorably. The results indicate that, if used with discretion, typhoid vaccines do no harm (*Jour. A. M. A.*, June 26, 1915, p. 2139).

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E. J. GOODWIN, M.D.,
EDITOR

PUBLICATION COMMITTEE { W. H. BREUER, M.D., Chairman
S. P. CHILD, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

THE TREATMENT OF SYPHILIS*

W. J. WILLS, M.D.
SPRINGFIELD, MO.

I choose this subject for discussion because I believe we are giving the least thought and attention to one of the most prevalent and tenacious of all the amenable diseases we are called upon to treat. I believe that the large majority of us are in a slump in the treatment of syphilis. Encouraged to believe that we could cure syphilis in a day, we have lost much of our respect and fear for a disease which a few years ago we considered so monstrous. I believe that in the last five years there has been enough of syphilis neglected, under-treated and mis-treated to make itself very perceptibly noted now in hereditary taint and later, in its time, by its crop of tabes and paresis. I believe that we are beginning to realize that we have been side-tracked and are now looking around for the road to safety, whether it means two, three, four or more years of treatment. Few of us are satisfied with what we have done.

It is not amiss to state why we have been traduced. It all started with the one shot cure—and while I speak thus slightly of salvarsan I thoroughly respect it and think it one of our essential remedies. Its exploitation was a masterpiece of salesmanship and the desire of many practitioners to get into print with their miracles—not only with salvarsan but with cacodylate of soda, soamin and the rest with this dosage and that technic—spurred the ambitious author and sensational journalist. Nor did the producers of alleged antisiphilitic remedies fail to join the din, abetted by the ablest and most scientific advertising. It was not all our fault—we were as always seeking for the best, but we got confused; now that we

have had a chance to think and note results, we are ready to return to the rational.

In combating luetic infections three conditions are to be met with—the germ, its toxins and their resulting lesions. We have at our command three drugs—mercury, salvarsan and potassium iodid.

The general invasion of the system by the *Spirochaeta pallida* is accomplished when the primary sore develops. Except in prophylaxis, the direct attack on spirochetes by antiseptics is nil. When entrance into the economy is once made only the response by that economy in the form of antibodies tends toward recovery. In some cases the stimulus of the syphilitic toxin is enough to call forth these antibodies to such an extent that the secondary stage does not appear but the disease enters into latency or even to recovery. Mercury and salvarsan in the presence of syphilitic toxins stimulate this response in every case, but not always to recovery. The introduction, even to saturation, of mercury is not prophylactic. Primary lesions have developed on those who by occupation are laden to toxicity by mercury. Mercury is efficacious only in the presence of the syphilitic virus. Only in the long continued stimulation for the antibodies do we hope for a complete cure.

The first general eruption of syphilis, the roseola, is nothing more than a specific toxic erythema—the other manifestations of toxemia are general pains, headaches, night pains, angina and fever. In salvarsan we find the perfect antitoxic. A few hours after an injection the intolerable angina, the terrific headaches of weeks and months duration have disappeared.

All the lesions of syphilis are essentially the same, primary, secondary, tertiary, et. al.—an invasion by spirochetes, endarteritis, hyperplasia, and infiltration with strangulation and resulting necrosis. When necrosis takes place as in deep scar forming secondaries, bone lesions or gummata, another condition appears which is neither spirochete nor toxemia and another restorative process must be invoked. Charac-

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May, 10-12, 1915.

teristic of necrosis, whether it be tubercular, anemic infarct, pus cavity or gumma, is fatty degeneration. By autolysis the blood ferments attack and digest the necrotic mass, but the fatty acid radicle inhibits autolysis. The laboratory shows how almost impossible of digestion by the blood ferments is this degenerated material. It also demonstrates their rapid digestion when the material is saturated with iodine. Laboratory and clinical experience coincide beautifully here. In all cases of infiltration and necrosis the saturation of the system with potassium iodide is demanded. Not only does potassium iodide permit the action of the blood ferment, but some authors contend that it stimulates a marked increase of the ferments themselves. Potassium iodide is not germicidal, it does not even inhibit the multiplication of spirochetes, but it does lay bare to the actual germicidal agent the infecting organism previously protected by necrosed tissue. In late cases iodized patients respond quickly to mercury or salvarsan. Before necrosis takes place potassium iodide is useless, the patient himself will show you by his acne, coryza, anorexia and headache that he is not physically well. In its field potassium iodide is very essential, but that field is limited. A system surcharged with potassium iodide has little resistance and recuperative power.

Our future work is guided largely by experience. For several years we depended almost entirely on salvarsan. One or two injections were deemed sufficient. We were promised brilliant results by testimonials—we got brilliant results. We promised our patients everything—they got it, at least temporarily. Ordinarily an untreated case of syphilis runs a course sequentially—primary, secondary, late secondary, small multiple gummata and the solitary, following each other by an average of intermissions without local manifestation, but we have found that the relapses after salvarsan anticipate these periods. Fourth and sixth year lesions are brought up into the tenth and twelfth month, gummata into the second and third years. We know that relapsing syphilis is harder to influence, we know that early syphilis yields more thoroughly. The time we have lost depending on insufficient salvarsan treatment is a serious matter; even those cases apparently cured may be latent—they should be given further consideration.

The modes of administration of mercury are many—per os, inunction, inhalation and injection. Mercury by inhalation is erratic, neither safe nor sure. Mercury per os, either with pill or solution, has passed the test of years. It has cured its millions but failed in many cases. Inunction and injection methods are both better. Only during periods when a patient cannot be sufficiently punctual for office treatment or can

not or will not rub, should mercury by mouth be used. Protoiodid or gray pills are to be depended on when necessary. Sufficiently large doses by mouth cause alimentary disturbances, pyalism, gastritis and diarrhea. It is difficult to avoid these complications. Besides a large amount of mercury is redischarged into the alimentary tract by the liver before it gets into the general circulation. We therefore know little of the dosage by this method.

Inunctions properly given are undoubtedly the very best and safest. When saturation is attained and untoward symptoms appear, a hot soap bath instantly empties the reservoir—the little mercury filled glands of the skin—something impossible when any other means of introduction is used. After a bath and an application of ether to open the glands of the skin, a bolus of mercurial ointment, one-half to a dram, is rubbed for twenty to thirty minutes each night, successively on thighs, calves, flanks, abdomen and sides, or repeated on sites most convenient if trauma by friction or ingredients has not occurred. On the seventh night a hot soap bath, clean clothes and comfort. A hundred and fifty rubs a year for three years is considered safe treatment. It should be checked by a Wassermann. Inhalation seems to play its part during rubbing, the best results being obtained in the winter because of closed rooms for rubbing and sleeping. It is not dirty, an application of talcum powder over the parts rubbed disguises the odor and color of the ointment. Unguentum hydrargyri U. S. P. of a good dispenser may be used. The requisites of a good preparation are the impalpable mercury globule, a nonrancid and nonirritating base.

Unless rubbings are regularly and properly applied this treatment is inadequate. It is hard for a doctor to know that his patient is getting proper care. Some can't use it because of social relations, some are lazy and some ignorant. Few will continue treatment after their symptoms subside.

Injections furnish the nearest ideal way for the introduction of mercury. The preparations used are from the soluble and insoluble salts. The soluble are the bichlorid, oxycyanid, protoiodid and biniodid. The insoluble, metallic mercury in the form of gray oil, calomel, salicylate and succinimid of mercury. The soluble salts are more quickly absorbed requiring smaller and more frequent dosage, and are given on alternating days. They are equally painful with the insoluble. The insoluble salts are suspended in some heavy oil, as liquid alboline, Russian or sesame oil in 5 to 10 per cent. proportions. The different pharmaceutical preparations put into ampoules or bulk are intended to be smooth, more quickly absorbed and the least painful; most of them containing

some local anesthetic. Burroughs, Wellcome's salicylate and calomel in palmatin with creosote, when put into the muscle are really painless. Calomel and gray oil are more painful, tend to slough and being less absorbable, tend to become stored at the site of injection; they are therefore cumulative. Needless to say accumulation threatens disaster. The succininid and salicylate are more generally used, injections of one-half to one and one-half grains are given every fifth day, anywhere in the gluteal muscles, avoiding the sciatic nerve. The needle is inserted about two and one-half inches, through a small stain of tincture of iodine. Massage after injection disseminates the drug in the muscle. When the needle is inserted into the muscle, wait a minute to see that no blood oozes from the needle. Should a mass of the suspension be injected into a vein a lung embolus might result, the symptoms of which are coughing, dyspnea and faintness. The symptoms subside after a few hours. This complication will not occur if you wait only long enough to fill your syringe after inserting the needle. Keep a sharp needle, a dull one causes needless pain, creates dread and fear of punishment. Begin injections with one-half grain. Even then there results a reaction similar to that of salvarsan—weariness, anorexia and backache. Alternating from one buttock to the other at each injection, gives ten days for healing. One grain is the routine dose. But one serious objection can be offered against injections—the possibility of super accumulations. It is stated that an injection of an insoluble salt is eliminated in from 30 to 50 days. The possibilities are dreadful to anticipate, but after watching the records of hundreds of cases I have not seen a single occurrence. Certainly by this method can the dosage be accurately gauged, the patient's condition constantly noted and himself better controlled and advised.

Salvarsan and its refinement, neosalvarsan, are administered intramuscularly, intravenously and intraspinaly. Neosalvarsan is equally efficacious, easier of preparation and can be given with less dilution. Intraspinaly a few cubic centimeters of aqueous or serum dilution are given directly into the spinal lymph space, after an equal portion of spinal fluid is removed. This is given for tabes and paresis. Its indications and its results are still in the shadow. Experience does not reveal its necessity; it is a refinement of treatment which demands much skill and special laboratory and hospital facilities. Intravenous injections are simple, safe and miraculously beneficial. Given into the median vein in dilution of from 10 to 250 c.c. The less amount of water used the less danger of reaction. No less than four or five injections at four or five day intervals should be considered a treatment. The last salvarsan is

made more efficacious by being given intramuscularly, because of the slow absorption and longer term of influence. In tabes and paresis small intramuscular injections given every four days for a period of months seem to me a more rational treatment than the one or two intraspinal injections. Reports of arsenic found or not found in the spinal fluid after any other than spinal injections are conflicting. If an antibody stimulus is all that is needed, why the necessity of free arsenic in the spinal fluid?

Salvarsan is powerfully antitoxic and quickly clears lesions of spirochetes. Sixty per cent. of negative Wassermanns have been reported after four or five salvarsans. The following routine is the consensus of rational treatment used by many clinicians: Four or five injections of salvarsan, intravenously, at four or five day intervals, followed by a series of twenty or thirty intramusculars of mercury salicylate, at four or five day intervals. Two months' rest and a Wassermann; if negative, Wassermann at six months' intervals for two years. If positive, another series of salvarsan and mercury.

This heavy treatment may be given with confidence if frequent urinalyses find no albumin, no casts, with sufficient urea output. Proper renal elimination is a perfect safeguard against arsenical or mercurial poisoning with this treatment.

The care of the teeth is of primary importance—there is nothing more discouraging on beginning treatment than to find bad teeth with soft receding gums. Give the dentist a note and get patient's mouth in as nearly perfect condition as possible. Keep it so with peroxide, brushing and an occasional application of dilute lugol solution at the gum margin. Alimentation is brought to highest efficiency, freely secreting skin, and kidneys flushed with good water and rest—all are imperative for best results.

Salvarsan is a miracle of promptness and efficiency but one injection of mercury is oftentimes as wonderful. In two patients, recently treated, their multiple periosteal nodes, painful, red and inflamed, had resolved within five days after one intramuscular injection of one grain of salicylate of mercury.

In solitary gummata where malignancy is suspected, but where Wassermanns are negative, one injection of a half grain of calomel and saturation with potassium iodid will dispel the lesion in from ten to fourteen days.

The idea of short term treatments must be abandoned. The real germicide is the antibodies brought into existence by salvarsan and mercury in the presence of syphilitic virus, and because of the tendency toward latency when the virus is scantily produced, even for long periods, it is necessary to have the system prepared for its first appearance. Two years is the least time to devote to constant treatment.

Tabes at thirty in inherited syphilis, death at twenty with hobnailed cirrhosis of the liver in one with inherited syphilis, our tabes and paresis, our arteriosclerosis, our aneurysms and the rest of the later manifestations, after long years of latency, make us realize that there is a possible future for every syphilitic and that we have only one time and one way in which to treat our every case; that is *now* and the way that we would want to be treated.

INFANTILE SYPHILIS AND NEOSALVARSAN*

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Inasmuch as the chief hope of permanently curing hereditary syphilis lies in treatment during infancy when the disease is seen early and in an active stage, it has seemed to me important to emphasize the period mentioned in the title of the paper.

Certain writers, among them Veeder and Jeans,¹ do not regard it as proved that the late type can be cured. The treatment of infantile syphilis must of course take the child into a somewhat later period of life before the question of a cure can be settled. The early diagnosis and efficient treatment will furthermore prevent the destruction and deformity that otherwise follows such early symptoms as rhinitis, and the mortality will be lessened.

J. Whitridge Williams² recently reported that in 10,000 consecutive admissions to the obstetric department of Johns Hopkins Hospital, there were nearly 2 per cent. (1.8) of syphilitic fetal deaths. Just how many living syphilitic children there were in addition to these stillborns he does not state. The significant fact is that 2 per cent. of the mothers gave birth to dead syphilitic offspring, and that others must have given birth to living infants likewise infected.

Churchill³ studied 101 hospital children taken at random and found that 38 per cent., over one-third, gave positive Wassermann reactions.

Blackfan⁴ and his associates examined the sera of 101 miscellaneous hospital infants, the same number as reported by Churchill, and

obtained only two positive as contrasted with thirty-nine positives obtained by Churchill.

Holt⁵ in 1913 reported that of 178 tests made in hospital children without definite symptoms of lues, 6 per cent. gave positive reactions.

The figures of the various observers are quite at variance, but the average would still give a high percentage of positive Wassermann reactions.

During the month of January, 1915, the presence of several syphilitic infants in the nursery at the General Hospital suggested to us the advisability of testing the sera of all the fifteen infants present at that time. Of these fifteen,



Fig. 1.—Hereditary syphilis, 6 weeks old. Note the rhagades of the lips and anus and generalized rash.

thirteen gave positive reactions. Many of these were symptomless so far as a specific diagnosis was concerned; some developed well-marked symptoms later. Those not on the breast had stationary or loss of weight on formulas which should in a well child have proven successful, three died, and six left the hospital without chance for further observation.

The specificity of the Wassermann reaction or some error in its technic would naturally be called in question in this remarkably high percentage of positives. I have no reason, however, for believing that the foregoing results

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* The writer wishes to hereby thank Dr. J. C. Bunton, of the resident staff, Kansas City General Hospital, for his enthusiastic assistance in studying the cases which prompted this paper. The Wassermann reactions were made by or under the direction of Dr. D. O. Smith, the hospital pathologist.

1. Veeder and Jeans: *Amer. Jour. Dis. Child.*, Oct., 1914, viii, 4, 283.

2. Williams, J. Whitridge: 1914 *Proceedings of American Association for Study and Prevention of Infant Mortality*.

3. Churchill: *Wassermann Reaction in Infants and Children*, *Amer. Jour. Dis. Child.*, June, 1912, iii, 6.

4. Blackfan, Nicholson and White: *Amer. Jour. Dis. Child.*, September, 1913, vi, 3, 162.

5. Holt: *Amer. Jour. Dis. Child.*, September, 1913, vi, 3, 166.

GROUP 1

Name	Symptoms	Wassermann		Luetin	Treatment	Results
		Blood	Sp. Fluid			
Rawlings, age 11 mons.	Malnutrition, papular rash, rickets.....	1/6/15 + + + 1/20/15 + + + 5/5/15 + + +	1/20/15 + + +	1. — 2. —	1/20/15 Salvarsan 0.06 gm. 2/3/15 Neosalvarsan 0.075 gm. 2/17/15 Neosalvarsan 0.075 gm.	Rash disappeared promptly and has gained seven pounds during last few months.
Hall, age 8 mons.	Snuffles	1/6/15 + + + 1/20/15 + + +	1/20/15 + + +	—	1/6/15 Neosalvarsan 0.075 gm.	Snuffles much improved when baby was taken away by mother on 2/12/15.
Fauber, age 11 wks.	Swelling, pain in forearms and legs; x-ray negative.	11/25/14 + + + 1/6/15 + + + 1/6/15 + + +	1/20/15 + + +	0	1/4/15 Neosalvarsan 0.08 gm. 1/20/15 Neosalvarsan 0.08 gm.	Swelling and pain disappeared; baby appeared normal.
Knight, age 19 days	None	1/6/15 + + + 1/6/15 + + +	1/20/15 + + +	1. — 2. —	2/3/15 Neosalvarsan 0.06 gm. 2/17/15 Neosalvarsan 0.075 gm.	Did not do well. Died 3/16/15. Autopsy: enlarged kidneys with increased connective tissue; generalized glandular enlargement.
Day, age 18 mns.	General glandular enlargement, bowing of tibia, saddle nose.	11/18/14 + + + 1/6/15 + + + 5/5/15 + + +	1/20/15 + + +	1. — 2. —	1/4/15 Neosalvarsan 0.075 gm. 1/20/15 Salvarsan 0.06 gm. 2/3/15 Neosalvarsan 0.15 gm.	General condition seems improved. Child thriving normally.
Darlie, age 3 mons.	Macular eruption on buttocks; fissures in ano.	1/12/15 + + +	1/20/15 —	1. — 2. —	2/17/15 Neosalvarsan 0.15 gm. 1/20/15 Salvarsan 0.06 gm.	Eruption cleared up after first dose; improved for awhile. Died 3/27/15. Autopsy: Syphilis of liver, general glandular enlargement.
Roy, age 2½ mons.	Macular rash, over whole body, snuffles, rhagades onychia; erythema palms and soles	4/6/14 + + +	0	+	2/3/15 Neosalvarsan 0.075 gm. 2/19/15 Neosalvarsan 0.075 gm.	Rash disappeared in twenty-four hours; snuffles much improved; gained 2 pounds in two weeks, then lost sight of.
Patricia, age 3 mons.	Pseudo paralysis of legs and arms, snuffles; difficult deglutition.	7/8/14 + + +	0	0	7/11/14 Neosalvarsan 0.075 gm.	7/22/14, pseudo paralysis gone. 9/19/14, gained 5 pounds since treatment begun. Lost sight of.
Beth, age 2 mons.	Macular rash on face and buttocks, snuffles, rhagades of lips and anus; erythema of palms and soles.	5/1/15 + + +	0	—	5/5/15 Neosalvarsan 0.15 gm.	5/10/15, rash gone; snuffles much improved.
Virginia, age 2 mons.	Snuffles, plantar and palmar macular syphilids	1/14/15 + + +	0	0	1/16/15 Neosalvarsan 0.075 gm. 1/26/15 Neosalvarsan 0.075 gm. 2/1/15 Neosalvarsan 0.075 gm.	Rash disappeared in ten days; snuffles and all other symptoms disappeared in two weeks.
Georgia, age 4 years	Perforating ulcer; soft palate.....	4/1/15 + + +	0	+	3/12/15 Neosalvarsan 0.075 gm. 4/27/15 Neosalvarsan 0.075 gm. 4/5/15 Neosalvarsan 0.3 gm.	Ulcer healed in two weeks after first injection.
Bell, age 6 years	Interstitial keratitis, one year ago; noticeable scar.	4/1/15 + + +	0	+	4/19/15 Neosalvarsan 0.3 gm. 5/1/15 Neosalvarsan 0.3 gm. 5/1/15 Neosalvarsan 0.3 gm.	No effect apparent.
German, age 1 year	Tetany	1/12/15 + + +	1/20/15 + + +	1. — 2. —	4/19/15 Neosalvarsan 0.3 gm. 1/20/15 Salvarsan 0.06 gm. 2/3/15 Neosalvarsan 0.075 gm.	Did not thrive. Died 3/17/15, with symptoms of malnutrition.

are far from right. It is certainly a coincidence that so many positively reacting cases were present in a nursery at one time.

Yerington and Holsclaw⁶ tested 100 hospital infants having stationary weight and malnutrition. Eight per cent. had triple positive tests and some others a slightly positive reaction.

Captain Craig of the Army states that "syphilis should not be diagnosed on the Wassermann alone, unless absolute inhibition of hemo-

therefore reacted negatively but the infants had syphilis. He believes that a syphilitic mother and child may both give a negative reaction in latent syphilis. Captain Craig believes that the reaction may be negative on certain days.

In an article in *The Journal of the American Medical Association*, September, 1912, the following statement was made concerning the consensus of opinion regarding the Wassermann reaction in general: "It gives a positive guide in the presence of active cutaneous manifestations, but it is not entirely convincing where the cutaneous symptoms are dubious or lacking."

I offer the report of the following cases for just what they are worth, regretting that the reactions of all the mothers were not ascertained and that repeated examinations of the children's sera were not always obtainable. The first table comprises those children who gave triple positive reactions and were given neosalvarsan. The second group gave less positive or faint reactions and were not given injections.

METHODS AND RESULTS

Thirteen infants that gave a pronounced Wassermann reaction, that had luetic symptoms or were not thriving well, were given neosalvarsan at two-week intervals as nearly as possible. It was impossible to keep many of the infants under prolonged observation because they were lost sight of in spite of definite instructions about continuing treatment. All cases received the injection intravenously, usually in a vein of the scalp, otherwise in the external jugular. No untoward symptoms appeared from intravenous injection. On one occasion we found it impossible to enter a vein and we did not care to cut down on it. Thirty-three intravenous injections were made. In some instances the solution leaked out past the needle. In two cases the resulting infiltration left an indurated mass for two or three weeks, but no sloughing or suppuration occurred. We used the remedy dissolved in about 5 c.c. of freshly distilled water, injected slowly with a Luer syringe, and a three-quarter inch, No. 20 to 22-gauge needle with short bevel. A small area of the scalp is shaved, cleansed, alcohol and iodine applied. Crying of the infant makes the vein more prominent. We have been able recently to procure small doses of neosalvarsan suitable to the child's needs. In most instances we have followed Holt's dosage of 0.075 gm. under 6 months of age, 0.15 over that age, although larger doses have been used at times without injury.

After observing the results from one or two doses of neosalvarsan, mercury was then begun and continued with subsequent injections of neosalvarsan when possible.

The results show a rapid disappearance of cutaneous lesions, more rapid than with any



Fig. 2.—Same infant four days after injection of 0.16 neosalvarsan.

lysis occurs; that is, a positive test will show no dissolving whatever of the blood corpuscles."

Lucas⁷ concluded that where the mother and the child both react positively to the Wassermann, there is always active lues in the child. In a large series of mothers who had syphilitic infants, 70 per cent. of these mothers gave positive reactions. The mothers in 30 per cent.

6. Yerington and Holsclaw: *Amer. Jour. Dis. Child.*, January, 1914, vii, 1, 32.

7. Lucas: *Arch. Pediat.*, October, 1913, p. 747.

GROUP 2
These infants gave a Wassermann but received no neosalvarsan because of lack of symptoms or early removal from hospital.

Name	Symptoms	Wassermann			Luetin	Treatment	Results
		Blood	Sp. Fluid				
Brown, age 10 days	None	1/12/15 + + +	1/20/15 +	0	None	Taken from hospital within a few days.	
King, age 2 mons.	Malnutrition	4/ 1/15 + + +	0	0	Mercury	Still in hospital, has not thrived well, suspicious scars in anus.	
Jackson, age 5 weeks	None	4/ 1/15 + + +	0	0	Mercury	Still in hospital, poorly nourished, suspicious scars in anus.	
Foster, age 14 days	None	1/12/15 + +	0	0	None	Taken from hospital 1/14/15, without chance for observation.	
McQuade, age 14 days	None	1/12/15 + +	0	0	None	Taken from hospital 1/13/15, with no chance for further observation.	
Englehart, age 14 days	None	1/12/15 + +	0	0	None	Taken from hospital 1/14/15; not seen again.	
Robertson, age 4 mons.	None	1/12/15 +	0	0	None	Good condition. Left hospital. Mother had + + + Wassermann. Not seen again.	
Ralph, age 1 week	None	1/12/15 +	0	0	None	Taken from hospital. Not seen again.	

other drug that we know. One dose has usually been sufficient for this.

The rhinitis and osseous lesions disappeared after two or three doses.

In most of the cases the infant became as well in appearance as any infant similarly nourished. It is difficult to make a hospital luetic child gain on artificial food. Breast milk is almost a necessity.

Three infants died, a mortality of 23 per cent.

In the few instances where repeated Wassermans were made, little effect was noticed on the subsequent reaction. Our observations, however, are so limited and the question of adequate dosage and repetition so uncertain that



Fig. 3.—Intravenous injection of neosalvarsan. Veins of scalp traced with iodine.

one cannot draw conclusions except to say that much longer and more vigorous treatment is necessary.

The discouraging feature with these infants was the short time that they remained for treatment.

NEOSALVARSAN

It has been my purpose in employing neosalvarsan to use it whenever possible to the exclusion of salvarsan, until from a large number of cases throughout a considerable period of time, I could come to some conclusion as to its worth. Furthermore, neosalvarsan probably because of its ease of administration and freedom of untoward results in infancy, has seemed worthy of an extensive trial. Thus far we have been able

to secure the drug, but the limited amount in this country now makes it probable that its further use will have to be discontinued.

King-Smith⁸ advises relatively larger doses as being better tolerated in children than in adults.

Noegarath⁹ bases the dose on the body weight of the child rather than on the age, beginning

Blechmann¹¹ injected 100 infants, intravenously with neosalvarsan 0.01 gm. per kilogram and increasing at intervals of one to two weeks for five to seven doses, then resting for an equal period.

Holt found that hereditary lues gives almost constantly a positive reaction to the Wassermann test, even when mercury has been used, but it disappears earlier and more uniformly after the use of the newer remedies, but only after repeated injections. Even with the aid of the Wassermann reaction, it is difficult, he claims, for one to say when hereditary lues is actually cured.

Most clinicians are agreed that the best results are gotten with a combination of neosalvarsan or salvarsan with mercury.

Our knowledge of the permanent curability of hereditary lues is as yet unsatisfactory. It would seem that early and persistent treatment with the absence of all symptoms for two years after its discontinuance is necessary for a cure.

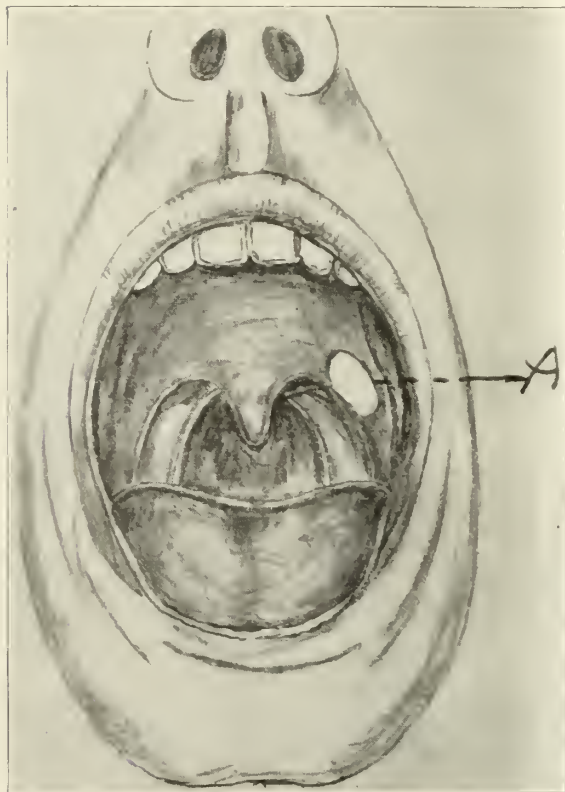


Fig. 4.—“A” ulcer one-half inch in diameter, perforating through soft palate into supratonsillar fossa.

with a small dose and increasing gradually to 0.1 gm. per kilogram.

The dosage and frequency of administration have yet to be worked out in order to prove just what this remedy will do in the syphilis of infants.

Dunzelmann¹⁰ in an experience with forty luetic infants abandoned the subcutaneous use of both salvarsan and neosalvarsan because of resulting necrosis, and gave all but four intravenously. His results were the rapid disappearance of the cutaneous eruption and the general improvement of the child. He reports the constant sequellae of anorexia, restlessness, drowsiness and sometimes fever. He regards a case as cured when all symptoms have disappeared for two years, such as the Wassermann, enlarged spleen and the rhinitis.

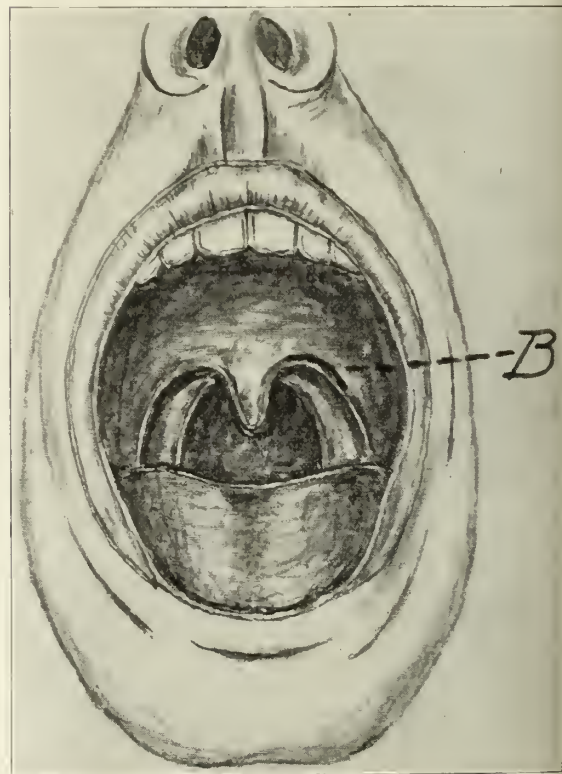


Fig. 5.—“B” healed scar of above ulcer two weeks after single dose of 0.16 neosalvarsan.

How impossible it is to carry out such prolonged observation any one knows who has treated hospital and private cases. As soon as manifest lesions disappear, few infants are allowed to remain under treatment. Hospital observation has many advantages because of the more per-

8. King-Smith: Jour. Cut. Dis. Incl. Syphilis, 1913, xxxi, 9, 639.

9. Noegarath: Jahrb. f. Kinderh., February, 1912, 131.

10. Dunzelmann: Zeitsch. f. Kinderh., Jan. 18, 1913, 572.

11. Blechmann: Amer. Jour. de Med. et Chir. Infant., Paris, March 15, 1914, xviii, 6, p. 177.

fect control of the child, but there is a menace in too long a stay in an institution from coincident infections and hospitalism. Once away from the hospital, the child is usually lost sight of. My experience has been that parents soon become indifferent to such a grave condition as lues.

Blaisdell¹² recently reported that 28 per cent. of patients with active symptoms never return to the clinic of the Boston dispensary for treatment. After the first few months only 25 per cent. of needed visits are made.

When one considers how many untreated and uncured cases of lues are living in close touch to the well public, he is aware of the possibility for the transmission and the persistence of the disease. Infected children mingle in foundling asylums, hospitals and schools with well individuals, becoming a source of danger to wet nurses, to foster parents and to other children. What becomes of uncured hereditary syphilis we do not know, but it is reasonable to suppose that it remains a menace to the individual, to his family and to the public at large. Improvement of conditions must come in the control of these cases by public notification, by a knowledge of the sources of infection, by increasing the possibility for prolonged observation and treatment. Under present unsatisfactory methods, we shall continue to remain ignorant of the permanent efficiency of neosalvarsan, mercury or any other remedy.

Rialto Building.

DISCUSSION

Dr. T. M. Paul, St. Joseph: One remark made by Dr. Wills is, in my opinion, so important that I think it cannot be emphasized enough; that is, that the public is not awake to the seriousness of this infection, and, what is still more sad to state, I am afraid that some of the profession are far from realizing its gravity. Our attitude toward syphilis three years ago may be stated in these words: A chancre could only be definitely diagnosed as such after the appearance of the eruption, never without waiting for the secondaries; typical nervous involvement could only be called truly luetic after a therapeutic test; and latent syphilis could not be diagnosed at all. Today we may prevent the development of the initial lesion of this disease by calomel ointment; we can diagnose the specificity of the disease before the appearance of the typical lesions of the mucous surfaces and skin by finding the spirochete; and obscure nervous disorders have a clear light shed on them by the Wassermann test. We know now that the man who once has had active syphilis cannot be reinfected because he still has latent lues, and that most patients develop tertiary lesions, even though they undergo mercurial treatment for three years. The former attitude was that the reason the tertiary lesions developed at all was because the patient ate the mercurial pills until his efflorescence disappeared, and after that he stopped. Now we know that it is because the disease is still latent in the individual after eating pills three years.

That we have still much to learn about this disease can be seen from the following facts: For a short time after a man has been infected, and before the development of a chancre, until he is completely

cured, he cannot be reinoculated. If this be due, as is claimed, to the presence of antibodies at the site of the attempted reinoculation, why does the Wassermann test not show their presence until shortly before the development of secondary manifestations, and why can the patient's own spirochetes cause a lesion later at the site where the reinoculation failed? When we have learned more about the morbid physiology of this disease; about the defensive methods adopted by Nature, and are aided by a better educated public, we shall have fewer tabetics in our poor farms, fewer paretics in our insane asylums and fewer children with hereditary lues.

Dr. R. L. Sutton, Kansas City: I enjoyed Dr. Wills' paper very much, but I am afraid he is just a trifle inconsistent in some matters. For instance, he at first stated that the intravenous injections were just as efficacious as the intramuscular, and then he told us finally that he would advise the intramuscular injection because it was far more efficacious; and, again, with regard to the comparative benefits of salvarsan and neosalvarsan. I need hardly say that salvarsan is so far superior to neosalvarsan that the latter has been practically discontinued by those who can obtain the older drug; even the manufacturers admit that the comparative strength is about three to two. It is so abroad, and men in this country like Fordyce, who have had an enormous experience in the treatment of syphilis, practically refuse to use the neosalvarsan at all.

Just a word regarding the comparative merits of the intravenous and the intramuscular injections. The intravenous is painless and it is convenient to use, and because it is painless and convenient to use are the main reasons why it is employed as frequently as it is. The physician feels that if he causes a patient pain that patient is very likely to go away and get treatment elsewhere which does not pain him; so the physician feels almost obliged to use the treatment that is easier for the patient. That is the main reason why the intravenous method is employed. When a physician has studied the subject from the serologic, as well as from the clinical standpoint, you will find that he uses salvarsan, because it has much greater efficacy than neosalvarsan. When a man like Captain Craig of the Army, whom we consider one of the best serologists in the world, tells you that one dose of salvarsan intramuscularly is equivalent to four or five doses intravenously, and that one dose of salvarsan intramuscularly is equal to eight or ten doses of neosalvarsan intravenously, few men who understand the effects of the drug will think of using it intravenously.

With regard to the serologic standpoint, when you have a patient who has received a dose of neosalvarsan intravenously every week for a month, and you wait for four or six weeks to two months and then get a four-plus Wassermann on him, what do you think of it? Another thing, from the danger standpoint: If you had seen as many cases of meningitis and possibly obliterative endarteritis of the cerebral vessels as I have, following the use of neosalvarsan intravenously, I assure you that if you had to take the drug yourself you would turn to something else. Personally, I would rather die of syphilis than as a result of intravenous medication with a drug which is capable of setting up the reactions found in many of these cases.

In regard to the mercurial preparations, the doctor did not mention that mercury given in mineral oils, such as liquid albolene and preparations of that kind, is very likely to give rise to nodules quite like the paraffinomata which we dermatologists find in patients who have been to Woodbury's and other "dermatologic institutions" in search of beauty. Many of you have seen these patients who have gone to such institutions to have wrinkles, etc., removed, and who have had paraffin and similar substances

12. Blaisdell: Menace of Syphilis to the Clean Living Public, Boston Med. and Surg. Jour., clxxii, 13, April 1, 1915.

injected into the tissues, giving rise to nodular indurations. The same thing happens in the buttocks when you inject a mineral oil which is slowly absorbed or not absorbed at all. As a result, you get large nodular masses, sometimes as large as your fist, which will persist for months. The best vehicle for this purpose is an animal or vegetable oil, preferably olive oil, or some equally innocuous substance which is promptly absorbed.

Personally, I prefer an emulsion of salicylate of mercury, grains 30, anesthesin, which serves the same purpose as cresol in the Burroughs Wellcome preparations, grains 30, lanolin, drams 1, and olive oil, ounces 1. Start in with a small dose, say 10 drops, twice weekly, and gradually increase the amount. Formerly I gave an average dose of 15 drops, but now, acting on the advice of my friend, Dr. Paul, I push the remedy until the physiologic effect is secured. I generally give an intramuscular injection of salvarsan every two months, with mercury during six weeks of the interval. The patient is first given a salvarsan injection, then allowed to rest for a week or ten days, until his kidneys are in good condition again, then the mercurial injections are begun and continued as long as you think best, then another rest, followed by another salvarsan, and so on for a period of at least a year or eighteen months. By this method you will get more permanently negative Wassermann reactions than you have ever secured by any other line of treatment.

Dr. William Frick, Kansas City: In the treatment of syphilis I do not think it wise to undertake a routine treatment. I mean that it is not wise to treat all patients alike from symptoms any more than any other disease. You know that in treating other conditions you always have regard to the state of your patient. It is the same, I think, with syphilis. Of course, we have certain specifics in this disease and we use those specifics, but the method of using them is what I have reference to. For instance, I am glad to have heard Dr. Wills speak of returning to mercurial forms of treatment, for we have a better method of treatment than we have ever had before in my experience in the combination of the salvarsan and the mercurials; but if I had to choose between the two, I would still say that the mercurial was a better remedy than the arsenical. However, we should use them together. No one now undertakes to treat syphilis by salvarsan alone, and in speaking of the marvelous effects of salvarsan, you can also get marvelous effects from mercury if you use it in the right way. There are various ways of using the mercurial treatment. We all know that many cases have been cured by the use of mercury by mouth in times past, and there are some cases still which can be largely treated in that way. There are other cases who cannot be given that treatment. Then we have our inunctions, which have always been the preference until late years, at any rate, of the Germans, and we have the hypodermic method, which is also valuable. Now we have the intravenous method of using the salvarsan. In using the hypodermic method, there are the two preparations of the drug in use; some prefer to use the soluble and some the insoluble. For my part, I prefer to use the bichlorid; it seems to me that if I use it intramuscularly I get less bad results than from any preparation of mercury.

In regard to the use of salvarsan, I agree with what Dr. Sutton just said, that the old salvarsan preparation is far superior to the neosalvarsan, and I also agree that the intramuscular method is the better. It has been my practice to recommend it to be used intramuscularly where I found a patient with a big enough muscle to use it without the probability of having too much disturbance; otherwise, possibly intravenously.

So, I would say, what we want to do is to treat this disease vigorously and from both sides, to use both the salvarsan and the mercurial preparations, and we shall have better results than we have ever gotten by either treatment alone. I think that we have made a very distinct advance in the treatment of syphilis in late years.

Dr. W. J. Wills, Sedalia: The paper reads "Neosalvarsan intravenously is a miracle of promptness and efficiency." I think that if we give salvarsan intramuscularly we get less relapses; but, as Dr. Sutton says, we have to hold our patients, they have to have their treatment, and if you drive them away from you, you may drive them to something worse; so if you give them the salvarsan and the neosalvarsan in a longer treatment and more continued, I believe that you accomplish the most.

Dr. Sutton speaks of the nodules of fibrous tissue that are formed when the drug is given in mineral oil. I believe that mineral oil is not so good as other oils, although that very nodule that he speaks of I have produced many a time with injections of quinin in solution in pernicious malaria. I think it results from having the bolus of the drug forced in between, probably, the laminae of the fascia and there forming an abscess, with scar formation; and I believe also that if you strike into the muscle and not in the fascia that the injections of either the neosalvarsan or the salvarsan or the mercury in small doses are not very painful. It is when you enter the fascia and cause that pressure, that stretching of the tissues there, without the possibility of absorption, when your material is not possessed of good absorptive power, that you get the bad results.

Dr. Frick, I think, made the remark that we should act according to the man's ability to stand treatment. I think we ought to keep it up, in every case, for a couple of years, and remember the old Latin adage of "Soc et tu um" in the fullest extent.

THE ALTERNATING PULSE*

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ST. LOUIS

By "pulsus alternans," we mean a condition of the pulse in which larger and smaller beats alternate regularly, the smaller beat, however, coming either just half way between the two larger beats, or a trifle nearer the following than the preceding beat. This last peculiarity serves to distinguish it from the "pulsus bigeminus" in which the smaller beat is nearly always nearer to its predecessor than to its successor.

The alternating pulse or, as it might better be called, the alternating heart, may reveal its presence in a variety of ways:

1. In the arterial pulse (it is usually the radial that is examined), it shows the phenomenon described above. In outspoken cases, the alternation can be detected by means of the palpating finger, especially if the artery be moderately compressed somewhat higher up, a point to which Traube called attention in his original article.

2. The behavior of the apex-beat in this condition is most erratic. In a large number of

* Summary of paper read before the St. Louis Medical Society, March 6, 1915.

cases, perhaps in most, the apex-beat, as registered in the cardiogram, is perfectly uniform. In other cases, the cardiogram also shows distinct alternation, but the smaller apex-beat is just as apt to occur at the time of the larger radial pulse as the reverse, in which the larger pulse and the stronger apex-beat fall together.

3. There has been some difference of opinion as to the existence of an alternation of the jugular pulse, though it is now generally conceded that an alternating jugular pulse does occur, though rarely.

4. The electrocardiogram is usually entirely uniform, even in the presence of a pronounced pulsus alternans. Sometimes, however, it too shows alternation, especially in the height of the T wave, more rarely of both R and T waves.

So strange a phenomenon has naturally led to numerous attempts at a theoretic explanation, none of which has proved entirely satisfactory. The essayist mentioned only that of Hering, which long appeared the most plausible one, and the explanation recently advanced by Wenckebach.

From the point of view of etiology and, corresponding to this, from that of prognosis, the alternating pulse may be divided into two classes. The first occurs after long periods of rapid heart action, especially after long periods of paroxysmal tachycardia. A distinct pulsus alternans often occurs under these circumstances and is readily explicable as an impaired contractility due to the overaction of the heart. When occurring under these circumstances the prognosis is invariably good. The reverse is true when the pulsus alternans is due to chronic cardiac impairment. Those who are able and willing to take good care of themselves, and others who show exceptional resistance, may hold out for some time, but the great majority die within the year. A serious prognosis is justified even if the patient's condition otherwise appears fairly promising. It is this feature that gives the phenomenon its significance and makes its recognition important from the points of view both of treatment and of prognosis.

The most delicate method of detecting alternation is the auscultatory blood-pressure phenomenon. If the pressure in the cuff is raised to a point at which all sounds in the cubital artery cease and is then carefully lowered, a point will be reached, in the presence of a pulsus alternans, at which only the alternate stronger pulse goes through, and the sounds heard over the artery have just half the frequency of the pulse rate. As the pressure is lowered still further, the weaker pulse also comes through and the difference between these two pressures measures the difference between the pressures of the larger and smaller pulses.

A number of cases were reported to illustrate these points.

A CASE OF HEART BLOCK ILLUSTRATING THE MODE OF ACTION OF THE VAGUS NERVE ON THE HEART*

G. CANBY ROBINSON, M.D.
ST. LOUIS

The following case of heart block is presented especially on account of the observations that have been made bearing upon the vagus control of the heart.

The patient, T. R., aged 58, river worker and fireman, was admitted to the Washington University Dispensary on Feb. 2, 1914, complaining of attacks of dizziness, fainting spells and shortness of breath. The attacks of dizziness were first noticed in May, 1913, and caused him to stop work, but it was not until August, 1913, that he had an attack of unconsciousness. Such attacks occurred several times since then and the time of admission without any definite relation to exertion or exercise.

In November, 1913, the patient began to have shortness of breath on slight exertion and cough. These symptoms grew gradually worse until the time of admission, in spite of one month spent in the Marine Hospital. About one week before admission the cough became worse and he developed general thoracic pain.

The patient gave the history of an attack of acute articular rheumatism in early manhood, and of caisson disease a few years later. Eight years ago he developed a primary syphilitic lesion, which was followed by an eruption of the skin. For this he was given mercurial inunctions for five weeks and potassium iodid for six months. He has had a laborious life, working on the Mississippi River boats, recently as a fireman. His past and family history is otherwise negative.

When first seen the patient was definitely cyanotic and slightly dyspneic. His heart was moderately enlarged and there was a blowing systolic murmur at the apex, due apparently to mitral insufficiency. The pulse rate was 52 and irregular. Unusual pulsations could be seen in the jugular vein. The liver was enlarged, being felt several centimeters below the costal margin. There were signs of a small pleural effusion, especially in the right side of the thorax, and edema of the ankles. The patient was found to have a strongly positive Wassermann reaction, thus confirming his statements as to the infection.

Polygraphic tracings taken at this time showed that there was a partial heart block, usually a 2:1 rhythm, but at times of a mixed type. In other words, ventricular contractions did not always follow auricular contractions, so that the "a" wave of the jugular tracing was not always followed by the "c" wave. At times every other auricular contraction failed to stimulate a ventricular contraction.

The patient entered the Washington University Hospital, service of Dr. Dock on February 4, where he remained until May 12, 1914. He returned on July 24 and remained until December 23, 1914. During his stay in the hospital he always showed signs of moderate cardiac decompensation. At times there were friction-like sounds over the pericardium suggesting pericarditis.

Numerous polygraphic and electrocardiographic records showed that the auricles and ventricles beat always independently and that he suffered from complete heart block. No evidence of partial heart block was ever obtained after the first observation. At times rapid puffy sounds could be heard over the upper

* Read before the St. Louis Medical Society, March 6, 1915.

pericardium, suggesting sounds due to auricular contractions, and by fluoroscopic examination the auricles and ventricles could be seen to be contracting independently at entirely different rates.

The most striking clinical feature of the case was the occurrence of numerous attacks of unconsciousness accompanied with convulsions. These attacks always began by deep labored breathing, then a deepening of the cyanosis, the face becoming flushed. In a few moments jerking movements of the hands and legs would begin and usually lasted for about thirty seconds. Consciousness was lost during the seizures and would gradually return as the jerking ceased and the cyanosis cleared. During the attacks and preceding them by a few seconds the radial pulse would cease and no sounds of ventricular activity could be heard. Absence of ventricular activity was noted to last as long as thirty-five seconds. The cardiac activity usually returned slowly, the first beats after a pause being at a very slow rate. During the period when these attacks were occur-

Figure 2 shows an electrocardiogram of a normal heart, and is shown in order that it might be compared with those of the patient reported. The three positive waves "P," "R" and "T" are so marked in the record. The "P" wave denotes auricular contractions, while the "R" and "T" waves are due to ventricular contractions. The two parts of the heart, therefore, produce waves in the electrocardiogram which are so distinctly differentiated from each other that there is practically never any difficulty in distinguishing waves of auricular and ventricular activity. It is seen in this normal curve that the ventricular waves always follow the auricular in regular sequence, bearing a constant relation to them.

Figure 3 is an electrocardiogram obtained on February 25 and shows that the auricles and ventricles are beating quite independently because the characteristic "P" wave occurs at a rate of 68, while the waves of ventricular activity occur at a rate of 27. The normal sequence or relation of the waves is also lost.

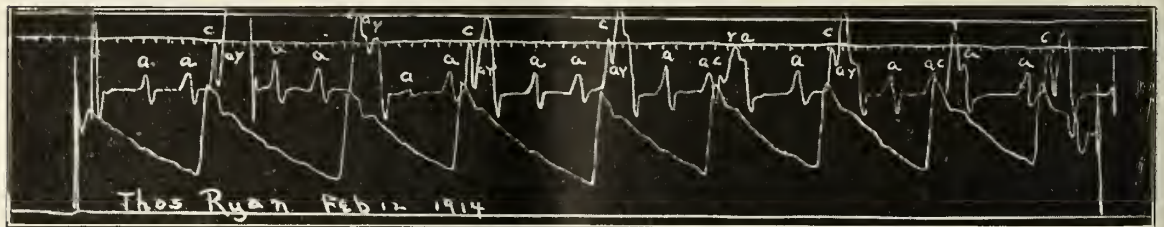


Fig. 1.—Polygraphic tracing from jugular vein (above) and radial artery (below). Waves marked "a" represent auricular contractions.

ring several times in twenty-four hours, ventricular arrhythmia was noted.

These attacks together with the evidence of heart block made it evident that the patient's condition was typical of the Stokes-Adams syndrome. The attacks ceased on March 8, 1914, and for the past year the patient has been entirely free from them. Numerous observations during the last few months have shown that the ventricles now beat regularly at a rate of 36. Electrocardiograms taken March 4, 1915, showed that complete heart block persisted.

A number of observations on the activity of the vagi in this patient seem of interest and it is on account of these observations that the case is reported. Various phases of the case are illustrated by the following records:

Figure 1 is a polygraphic tracing showing the radial and venous curves. In the radial tracing there is seen numerous small waves occurring between those that just precede the radial pulse waves. This tracing is typical of complete heart block and shows that the auricles and ventricles are beating independently.

Figure 4, obtained March 3 is quite similar, except that here the ventricular rate is 42 per minute; the auricular remaining unchanged. This curve is shown to illustrate the fact that the rates of the two parts of the heart are quite independent of each other in this condition of heart block.

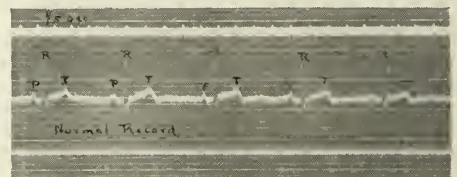


Fig. 2.—Electrocardiogram from a normal heart.

Figure 5 is an electrocardiogram obtained February 25, it indicates a very slow and irregular action of the ventricles. Here a ventricular pause of 4.2 seconds is seen and this curve apparently illustrates the cause of the ventricular stoppages which were responsible for the attacks of unconsciousness and convulsions.

That this ventricular slowing is not an effect of vagus activity is illustrated by the following figures. The records of this case show also that the ventricular stoppages are not due to sudden change from incomplete to complete block. In a number of cases of Adams-Stokes

stoppage. In our case, however, it was apparently ventricular arrhythmia with long pauses which resulted in the syncopal attacks.

Figure 6 shows an electrocardiogram taken April 14 during the stimulation of the right vagus nerve by pressure. The lengths of the

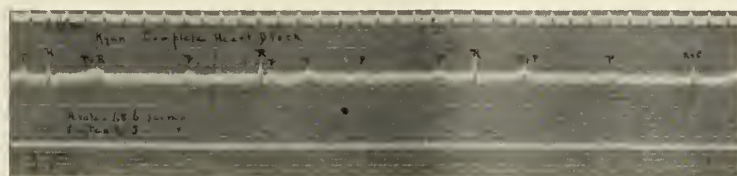


Fig. 3.—Complete heart-block. Auricular rate 68.6, ventricular rate 27.3 per min.

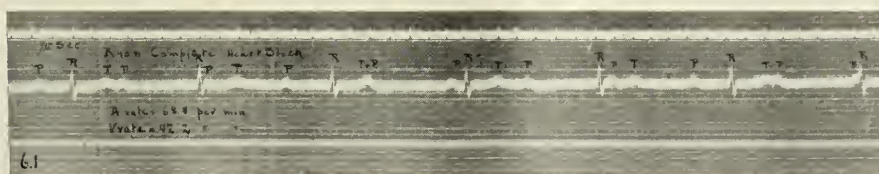


Fig. 4.—Complete heart-block. Auricular rate 68.8; ventricular rate 42.2 per min. Ventricular rate more rapid than in curve of Fig. 2. Auricular rate unchanged.

syndrome syncopal attacks have apparently occurred when partial block changes to complete. Under this condition the ventricles are suddenly left without the rhythmic stimuli descending from the auricles and so are dependent on their inherent rhythm for the maintenance

various auricular and ventricular intervals are marked on the curve and it is seen that while distinct slowing of the auricles was produced, the ventricles did not show any change in rate. This curve illustrates a fact that has been shown especially by Erlanger experimentally,



Fig. 5.—Complete heart-block. Marked ventricular arrhythmia shown.

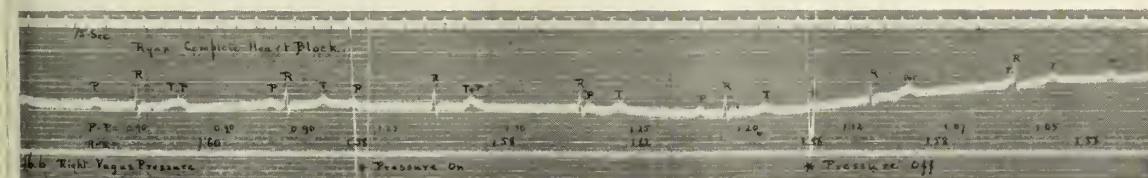


Fig. 6.—Complete heart-block. Effect of right vagus stimulation by pressure. Definite slowing of auricles. Ventricular rate unaffected.

of the circulation. When this happens there is usually a relatively long period of time elapsing before the ventricular activity can assert itself independently and during the pauses that follow the convulsions occur on account of cerebral anemia resulting from ventricular

in regard to the vagus control of the heart; the auricles respond to vagus stimulation by changes in rate in heart block, while the ventricles are practically unaffected, indicating that the vagi control the rate of the ventricles secondarily by affecting primarily the rate of the auricles.

Figure 7 shows the effect of a hypodermic injection of atropin. One-thirtieth grain was given and electrocardiograms were taken at frequent intervals thereafter. The rates of the auricles and ventricles have been calculated separately and it is seen that although the auricular rate increased about twenty-five beats, the ventricular rate was practically unaffected. As is well known, atropin paralyzes the cardiac vagus endings and releases the heart from its control. The tonic action of the vagus being

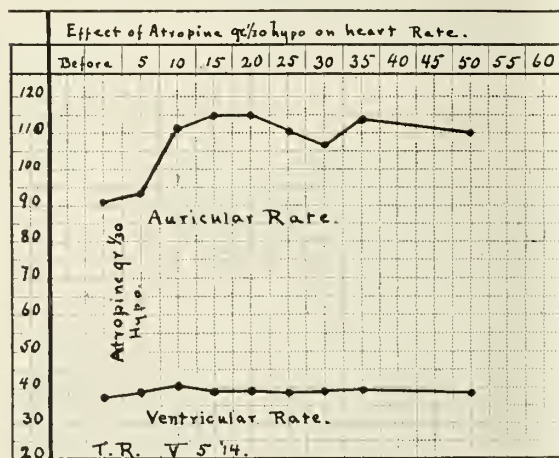


Fig. 7.—Chart showing the effect of atropine on the auricular and ventricular rates.

removed there is normally a cardiac acceleration of about twenty-five beats per minute. Here it is seen that the paralysis of the vagi affect only the auricular rate, while that of the independently beating ventricles is not affected. One concludes from this experiment that the ventricles were not under control of the vagi while the auricles were being constantly slowed by tonic vagus action. This effect of atropin has also been shown in experimental heart block. Recently some cases have been reported by Hart (*The Am. Jour. Med. Sc.*, 1915, cxlix, 762), in which the vagi were apparently active on the ventricles as well as on the auricles. Why they should be active in some cases and not in others there is not conclusive evidence.

The lesion responsible for heart block is not a constant one. Any lesion which causes destruction or functional derangement of the conduction system of the heart may be responsible for the phenomenon. These lesions have been described in a number of cases as fibrosis, as fatty degeneration, as infarctions or ulcerations, but syphilis has been responsible for more cases than any other one cause. There may be a more or less general sclerosis or a gummatus formation affecting the auriculo-ventricular bundle. The fact that our patient had a definite

history of syphilis and a positive Wassermann has made it seem likely that his condition is due to a syphilitic lesion in the conducting system.

Figure 8 is a photograph of a heart showing a gumma in the region of the auriculo-ventricular bundle. It is taken from a heart which was discovered in the museum of the Pennsylvania Hospital, Philadelphia, and which was removed at necropsy in 1879. The position of the gumma made it seem likely that block would have resulted, and the clinical history which was in the hospital records showed that the man had suffered with a typical attack of Adams-Stokes syndrome, having had a pulse of 36, and convulsions. The gummata are seen in the figure just below the aortic valve in the intraventricular septum. The root of the aorta also shows the typical puckered appearance of syphilitic aortitis.

The treatment of our patient was based largely upon the fact that his lesion was probably syphilitic. He was given mercury and sal-

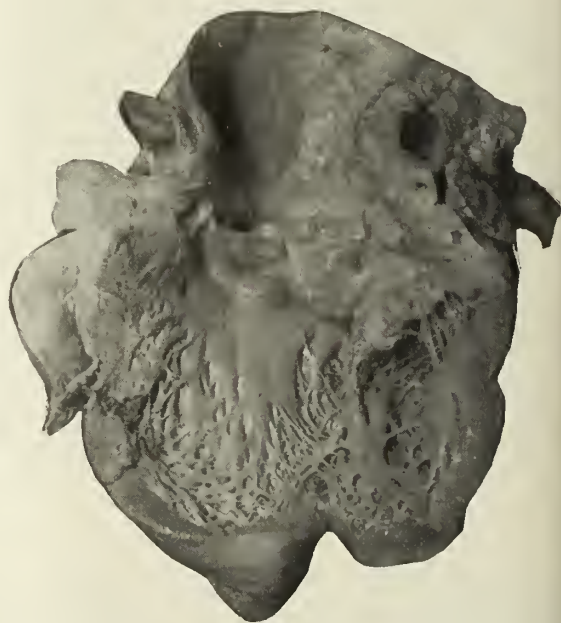


Fig. 8.—Heart showing gummata in the interventricular septum in the part in which the auriculoventricular bundle lies. From a case of Adams-Stokes' syndrome.

varsan and intensive syphilitic treatment was pushed. Digitalis and strophanthus were also used but without any definite effect on the ventricular rate. These drugs are not contra-indicated after heart block had become complete, although they are in partial heart block. In fact, Bockman has shown that strophanthin may increase the rate of the independently beating ventricles and on that account good results may sometimes be obtained in cases of complete heart block.

DISCUSSION

Dr. Jerome E. Cook: I had the opportunity of observing the first case reported by Dr. Taussig. It was interesting to note that when the difference between the pressure of the alternating waves was great the condition was easily detected by the palpating finger. This was best done by palpating in the same manner as when one attempts to estimate the radial pressure by palpation, that is, by obliterating the pulse with the proximal finger, then gradually releasing the pressure with this finger and noticing the return of the radial pulse wave with the distal finger. In this way the condition can be quite easily detected even when the pressure difference of the alternating waves is as little as ten millimeters. When it is less than this it could not be determined with certainty by palpation. French observers have directed attention to what they call temporary pulsus alternans. However, their determinations were made with the sphygmograph, but the sphygmograph is not delicate enough to detect an alternating pulse with small difference between the alternations, so it is probable that the alternations did not disappear but only varied in degree; if they had used the auscultatory method this fact would probably have been detected. The fact that their cases of temporary pulsus alternans showed the same unfavorable clinical course as the others will also speak for this interpretation.

Dr. Joseph Erlanger: Dr. Robinson's paper has brought to mind certain topics that are more or less controversial, or about which there is yet much to be learned. One statement that attracted my attention was that in his case of heart block there were times when sounds could be heard which evidently were due to auricular contractions. This phenomenon has been observed fairly frequently in heart block both in man and in the dog, and is something that is worthy of some consideration, since it indicates, without any doubt, that the contractions of the auricles can produce heart sounds. Commonly, we do not attribute any of the normal heart sounds to the contractions of the auricles; nor do we find in records of the heart sounds obtained with the aid of the microphone any evidence of sounds produced by contraction of the auricles. Still, we can hear these auricular sounds in heart block. Is it, therefore, not justifiable to assume that the auricles do normally produce a sound which ordinarily is entirely submerged by the much louder sounds due to ventricular activities, and that such auricular sound is actually too feeble to manifest an obvious effect on the microphone? In other words, have we not here a case in which the ear is more delicate than our present methods of recording sounds?

Another matter that Dr. Robinson's paper calls to mind is, how little we know about the cause of the syncopal attacks in heart block. Of course, the syncopal attacks are due to stoppage of the ventricles; I might, therefore, modify my statement by saying that we know little about the cause of stoppage of the ventricles. Dr. Robinson has explained how, when the block is partial, when the ventricles are responding to occasional auricular beats, the time may come when the ventricles suddenly cease to respond to auricular beats. Then they do not contract until they have had time to develop their inherent but dormant tendency to beat. Such stoppage will, of course, stop the circulation temporarily and a syncopal attack will result. In this connection, though, I had reference to the stoppage of the ventricles occasionally seen in cases in which the block has become complete: where they are developing their own contractions. How can we account for stoppage at such a time? We now say merely that they stop. That, of course, is what happens, but can we not go deeper than that?

There is no, or very little, experimental data to help us here, and what I may have to say is largely conjecture. It is this: When the ventricles are beating by themselves, we may assume that a certain part, more rhythmical than the rest, sets the pace for the ventricles; now, circumstances that we are not familiar with may change the relative rhythmicity of different parts of the ventricles, and it is quite possible that such shifting relations might annul the rhythmical properties of the pacemaker. Then the whole of the ventricles will cease beating until another part, namely the next most rhythmical part, can develop its inherent but dormant tendency to such an extent as to set up a rapid beat of the ventricle. In other words, the stoppage in complete heart block, and in partial block have almost the identical etiologies. They are due to the temporary withdrawal of the action of relatively more efficient pacemakers.

Another point referred to by Dr. Robinson is the contradictory results that have been obtained through the administration of atropin in cases of heart block. As Dr. Robinson has said, the usual response to the administration of atropin in a case presenting complete heart block is an acceleration of the auricles, and no effect, or only a very slight effect on the ventricular rate, indicating that the ventricles are free of vagus control in complete heart block, while the auricles still show the normal vagus control. Now, as Dr. Robinson has said, Hart has recently presented a case in which atropin accelerated not only the auricles, but the ventricles as well. In order to explain away these apparently contradictory results, it becomes necessary to state that a similar discrepancy in the results of different investigations with relation to the action of the vagus in heart block in the experimental animal now exists. Whereas most investigators find that after complete heart block has been produced in the dog, direct stimulation of the vagus nerve slows the auricles and has little or no effect on the ventricles, there is one investigator, Fredericq, who maintains that after complete heart block has been produced, stimulation at certain stage of compression, namely, when the pressure is sufficient to produce heart block, but not to block the impulses carried to the heart by the vagus nerve, it is possible to obtain the same degree of slowing of the ventricles as of the auricles. Here, then, there seems to be a clear contradiction on the part of different investigators; one group maintaining that in complete heart block the ventricles are practically clear of the effect of the vagus, another that the ventricles are still subject to vagus action. The contradiction is due, I think, to a difference in the way the block is produced in two sets of experiments; to my mind, it is due to a slight difference in the location of the compression. In Fredericq's experiments a clamp was made to encircle the heart at the auriculoventricular junction. Now, a closing clamp will not stay at the auriculoventricular junction because the great mass of the ventricles causes the clamp to move up and to grasp the thinner tissue above. I think, then, that we can assume without any danger of being found wrong, that practically the entire auriculoventricular bundle would escape compression in such a clamp, and that there would be left below the clamp auricular tissue which is normally subject to vagus action. In my experiments the auriculoventricular bundle is compressed after it has passed the auriculoventricular junction and there is then no auricular tissue left in connection with the ventricles, and in my experiments dissociation of cardiac and vagus impulses was never observed. I believe, therefore, that time will show that in Hart's case, in which atropin caused ventricular acceleration, the lesion causing the block was located relatively high in the conducting system; while in Dr. Robinson's case, and in the vast majority of cases in which atropin does not change the ven-

tricular rate, the lesion probably is situated relatively low in the conducting system.

In connection with Dr. Taussig's paper, one point has to do with the cause of the opposite alternations of the apex beat and of the radial pulse. You all probably know that in extrasystoles of the ventricles the extrasystolic impulse is usually more forcible to the touch and produces a louder sound than the normal impulse. We have here, then, another case of a weaker pulse associated with a stronger apex beat. I am inclined to believe that the cause of the phenomenon can be found by considering the normal cause of the apex beat. The normal apex beat is due practically entirely to the hardening of the heart with its contraction. When the heart is relaxed it does not manifest itself on the chest wall, because it is soft; it merely rests against it without making an impression on it. But when the heart contracts it makes itself felt and produces the thrust of the apex beat. The extent to which the heart will manifest itself on the chest wall during diastole will depend mainly on its fulness, and during systole on the strength of its contraction. And the force of the apex beat will depend on the difference between these two effects. A heart that is full of blood when it contracts would, therefore, produce a relatively feeble apex beat. Assuming Hering's explanation of the alternating pulse to be correct, the weaker contraction of the heart producing the lower pulse would leave considerable residual blood; the stronger contraction of the heart would then find the heart full of blood and a relatively feeble apex would result. And so we would have an opposite alternation of the apex beat and the arterial pulse.

Dr. Fred Fahlen: I think two things should be considered here: first, when to give digitalis and when not. Perhaps the latter is the more important. Digitalis should not be given in those cases where there is a suspicion of block or the rate of the pulse is lowered to an unusual degree; and particularly where there is an occasional drop of a beat which has not existed before giving the digitalis, especially if sphygmographic tracings or electrocardiographic tracings have been taken showing that there is an increase in the interval between the auricular beat and the ventricular beat. In those cases there is definite danger of throwing that heart into a complete block and producing more or less untoward symptoms. So the watching of a case of that type with a view to measuring the auriculoventricular interval should always be borne in mind.

On the other hand, the effect of digitalis directly on the heart muscle should be kept in mind; not only its effect on the vagus, both centrally and peripherally, but on the heart muscle. I think digitalis has been shown to have a more or less definite effect on the heart muscle, increasing its strength and action; and a heart which has shown a definite decrease of muscle power may perhaps well be treated with digitalis in a complete block. I think this may be borne out by reciting a case which I saw several years ago, rather different from the average type, insofar as the patient had a peculiar fluctuation, varying from a partial to a complete block. Ordinarily, a case that has developed a complete block remains in a complete block; that is, the pulse remains slow and in the majority of cases without many syncopal attacks after the block has been completely established; it is usually in the change from the partial into the complete block that the syncopal attacks, the untoward symptoms and the distressing epileptiform seizures occur. The case I have mentioned was of this type; in fact, the last day of his life he had some fifteen severe epileptiform convulsions. I had an opportunity to watch him carefully, and I found there were great and prolonged intervals of ventric-

ular stoppage, one interval being fifty-five seconds between any ventricular beats, and at times he would come entirely out of the complete block with a ventricular and auricular rhythm between sixty-eight and seventy-five. While his ventricle was beating at that rate, it would suddenly stop for a prolonged interval, he would go into an epileptiform seizure and into a complete block. This fluctuation went on all day long. I believe the wiser thing for me to have done there would have been to throw the patient into a complete block by full doses of digitalis. I believe the chance of avoiding these severe seizures would have been better. The postmortem showed a marked fatty degeneration of the heart muscle and a rather unusual endocardial or subendocardial layer of fat; the whole area of the bundle showed no evidence of anything more than a mild type of fatty degeneration; there was no place in the entire course of the His bundle which showed an absolute break. So that, although this case was one of complete and severe heart block, there were certain jumps from partial to complete block, indicating to my mind pretty clearly that it must have had something to do with the blood supply to the bundle of His.

Dr. George Dock: Some very interesting things about heart block are difficult to understand. It was not explicitly stated this evening, but very often one gets the impression from the literature that heart block and Stokes-Adams disease are synonymous. As a matter of fact, one sees not a few cases of complete heart block in which there is no history of Stokes-Adams attacks. They go on sometimes for many months or years with the same condition that patients with complete block following the attacks have. Some go on month after month with a pulse about 30 and yet apparently with fairly good functional condition. It shows the remarkable adaptability of the heart to the work that it has to do under certain conditions.

Dr. Albert E. Taussig: I should like to add a word about Dr. Robinson's case. While the patient was in Washington University and was having the frequent convulsions, several every hour, we noticed one phenomenon that seemed to me extraordinarily interesting and perhaps somewhat suggestive. The patient would regularly have a rhythmic change in his pulse, when, so far as I could make out from tracings at that time, the block was complete. At any rate, there was no dropping out of beats, the pulse being perfectly regular without any arrhythmia whatever. I sat by his bedside for long periods of time, counting the pulse every fifteen seconds, and the rate varied from 36 beats per minute, as I remember it, to 20; so that counting successive quarters of a minute the count would be 9, 8, 7, 6, 5, perhaps, 5, 6, 7, 8, 9, and up and down in that manner. Every now and then this curious rhythmical fluctuation in rate was interrupted by a convulsion, and this convulsion was just as apt to come on when the rate was high—that is, when the heart was beating 36 per minute—as when it was beating 20 per minute. The way it would happen was this: The heart would be beating say 9 per minute; then suddenly there would intervene a long diastole, then a beat, then another long diastole, then a beat, and then nothing could be felt at the wrist on account of the violent convulsions that the patient underwent. I have often tried to figure out just what happened there, but could never arrive at any real explanation.

Dr. G. Canby Robinson: I have nothing to add except to comment briefly on the phenomenon that Dr. Taussig has mentioned which was very interesting. Dr. Taussig was especially interested in it and observed it carefully. This rhythmic change of ventricular rate is very rare in cases of heart block. I have not seen it at all in other cases that I have followed, and I do not recall that it is mentioned in the literature.

RATIONAL OBSTETRICS*

GEORGE ALFRED AIKEN, M.D.
MALTA BEND, MO.

At no time has any branch of medicine received the attention, been discussed in such detail, and aroused such interest as has the seminarcosis method of childbirth as developed by Doctors Krönig and Gauss. Such popular magazines as McClure's, Delineator and Ladies' Home Journal, as well as the popular dailies have given "twilight sleep" such thorough circulation that our patients ask us daily concerning "the German method of having babies without pain." Regardless of this anxious inquiry, it is our duty to be able to advise intelligently on the subject.

It would be folly to say that painless childbirth has arrived, yet, as is pointed out by Mosher¹ and others, the *Dammerschlag* method as practiced in the Freiburg clinic is successful. Some of our leading obstetricians condemn it; however, it is noticeable that the list of antagonistic authorities is continually growing less.

Because of such exact requirements in environment, technic, and the necessity for specially trained nurses, the procedure is confined to hospitals. That means that most cases of labor must for the present be conducted without its aid. If, however, the general discussion of twilight sleep stimulates us to give the parturient woman the same conscientious care and scientific investigation that are given to all other branches of our art, I firmly believe that, ere many years, the greater part, if not all, of the pain of childbirth may be eliminated.

Strange to say, new ideas and new procedures in obstetrics have met with more antagonism by the medical profession of late years than have advances in other branches. In the instance of *Dammerschlag*, it is best to be at least conservative in our criticism and we should assume an attitude of scientific open-mindedness.

While the scopolamin seminarcosis in labor is inaccessible to the majority of us, yet we have some means of reducing the number of hours and the severity of the pain of parturition in a goodly percentage of cases. Perhaps nothing new to any of you will be offered herein, yet I hope a beneficial discussion may be precipitated.

While pregnancy is a physiologic condition it is separated from an abnormal one by such a narrow line of demarcation that the pregnant patient should be under the constant observation of the obstetrician. Disregard of this period has been responsible for hours of untold agony in many cases. An easy confinement

depends in large part on a healthy patient, and ordinarily a condition of health may be had by intelligent attention to diet, exercise and hygiene.

The diet should be² "abundant and nourishing, and ordinarily the patient should be allowed her usual customs, but should be warned to abstain from very highly seasoned or indigestible articles of food." It is pointed out³ that a diet poor in carbohydrates and fluids has a marked effect in reducing the weight of the child. In cases of contracted pelvis it may be well to cautiously limit the amount of such food during the last two months of pregnancy. Happily, this can be done without placing a handicap on the later development of the child, for we all agree that it is not necessarily the "biggest baby at birth" that makes the most satisfactory development.

Fruits are as a rule desired by the patient and unless there be an abnormal amount of gastric acidity they serve an important place. If, however, the above condition is present fresh fruits are frequently contraindicated.

Vomiting frequently interferes with the strength and nutrition of the patient, and if possible, it is highly important to prevent this objectionable symptom.

The many remedies for vomiting of pregnancy are evidence of its resistance to treatment. Where a malposition of the uterus is present it should be corrected. For the nervous vomiting the most successful measure I have used is that of painting the cervix with tincture of iodine. This is of course not infallible but I have seen several cases yield to it that have resisted other treatment.

An abundance of suitable exercise is of paramount importance. In the type of patients who on finding themselves pregnant assume that they are ill is found the greatest difficulty in securing proper exercise in sufficient amount; and it follows that this is the class which has the highest percentage of dystocia. I regard walking as the most valuable exercise. It compels fresh air, furnishes sufficient aeration, stimulates digestion, assimilation and excretion, and I have observed that in patients who do a great deal of walking, mental aberration is an inconsequential factor.

It is exceedingly important to carefully superintend the patient in regard to hygiene. A method of many of supplying printed instructions to the patient is an excellent procedure, for the patient having this convenient guide at hand may notice and report abnormalities which she might not otherwise think of enough importance to deserve attention. The physician in turn is benefited by being relieved of the annoyance of answering many unnecessary questions.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

1. Journal of the Kansas State Medical Society, December, 1914.

2. Williams: Obstetrics, p. 200, second edition.

3. Prochownich, Reeb and Patten in Williams Ob., p. 200, 2d edition.

Elimination must be constantly supervised. Regular examination of the urine has prevented many cases of eclampsia. The urine should receive both microscopic and chemical examination very frequently during the last six weeks of pregnancy. The necessity for microscopic examination was impressed on my mind on seeing a case of eclampsia three days after a chemical examination of the urine, which showed no toxemia. There is a strong probability that a microscopic examination would have given information which, if properly acted on, might have prevented the attack.

The bowels should be emptied daily, the most satisfactory agent for this being the cascara evacuant. Combined with this, the frequent use of the saline enema is of benefit. When in need of an alternative, the judicious use of the mild chlorid of hydrargyrum is usually recommended; I prefer the protoiodid.

Through the entire period of gestation copious drinking of water (unless during the last six weeks as mentioned) and an open-air sleeping compartment should be insisted on at all seasons.

Much harm results from corsets. During the latter months of pregnancy all tight clothing is interdicted, except in cases of multipara having lax abdominal muscles. Here abdominal support and massage are indicated.

Practically all authorities agree that the course of a normal labor should not be interfered with and I think no one lays himself open to more adverse criticism than does he who would reduce the duration of normal labor; yet we have some means at our disposal which if intelligently used are practically devoid of danger in selected cases and I can see no logical or scientific reason why they should not be employed.

About twelve years ago the hyoscin, morphin and cactin combination was given us with such claims for it as are now being made for the scopolamin-morphia treatment. The claims were soon discredited, however, chiefly on account of asphyxiated babies and the frequent occurrence of postpartum hemorrhages following its use. It is a matter of record, however, that the asphyxia of the child occurs when the full dose as originally advocated is given. The drug has a place in obstetrics, and I confess that I use it in a large percentage of my normal cases, with the following dosage however: hyoscin hydrobromide gr. 1/200, morphin hydrobromide gr. 1/8, cactin gr. 1/128. In nervous primiparas with a rigid os this is frequently preceded by morphin; from eight to twelve hours' rest usually follows. At the end of that time the os dilates quickly. The hyoscin-morphin-cactin combination is withheld until the os is well dilated and

when active contractions occur, a second dose of hyoscin is often given. Amnesia is usually marked and patient rests well between pains.

After the head is well down on the perineum 1 c.c. of pituitrin may be given if there is any reason to fear cyanosis. In case the pituitrin is here given the perineum should be well supported to prevent laceration. It is pointed out that⁴ pituitrin has no place in normal labor. The administration should be confined in obstetrics to instances of primary and secondary inertia; to postpartum hemorrhage and cesarean section—in the last as a substitute for ergot. While we admit that pituitrin reaches its greatest usefulness in cases of inertia yet, in the normal instance just cited, the drug causes the prompt expulsion of the fetus with practically no danger of laceration (in a normal perineum) and without danger to mother or child. Why is it not indicated?

The effects of pituitrin do away with the objection raised against hyoscin-morphin-cactin—that of postpartum hemorrhage. A few whiffs of chloroform or ether (I prefer the former) during the expulsion of the fetus is of exceeding benefit in robbing the pains of their sharpness, and if judiciously administered I am confident that asphyxia of the child cannot be produced thereby.

Pituitrin almost always produces powerful, rhythmic contractions of the uterus. It acts quickly and it is proven that it assists involution very much. I have never had a troublesome hemorrhage following its administration. There are however certain contraindications to its use which must be strictly observed. They are: arterial hypertension, contracted pelvis, anemia, and malposition of the fetus. The contractions produced are often terrific and the possibility of rupture of the uterus must always be considered. Under normal conditions there is little or no danger of it being the cause of eclampsia.

Digital dilatation of the cervix is objected to by many because of the following reasons: (1) Danger of laceration; (2) danger of infection; (3) pain inflicted on patient; (4) meddlesomeness. As to the first, I am sure I have not sufficient strength in my digits to produce laceration. In regard to the introduction of infection, I should consider myself criminally negligent should I infect a woman by this procedure. As to the pain induced thereby, I do not find it the cause of serious complaint; it is rarely mentioned and a person can in a half hour dilate more than would sometimes occur in several hours (in a rigid os) of severe pain. In regard to the meddlesomeness charge, I contend that any procedure which is devoid of danger to mother and child and assists in shortening the duration or severity of pain is not meddlesome but on the other hand it is humane.

4. Trans. Amer. Gynec. Soc., May, 1913.

Digital dilatation is also a very efficient means of stimulating uterine contractions, ranking ahead of quinin or strychnin.

In women broken down in health from much child bearing, and in nervous primiparas frequently, the pains are short, far apart and ineffectual. In these cases—especially the former—exhaustion comes early, and it is this class of patients that give us most of our postpartum hemorrhages and septic fevers; hence it is important that these cases have assistance early. Strychnin is here indicated. Following the strychnin I produce digital dilatation of the cervix, rupture the membranes and give 1 c.c. of pituitrin. Chloroform is then exhibited in small amounts and strong rhythmic pains are produced which soon terminate the case favorably. It is important that the pituitrin be given before the chloroform, because the majority of cases in which pituitrin has proven ineffectual are those in which the pituitrin has followed the administration of chloroform.

A large head promises a tedious labor. The most satisfactory method of meeting this condition is digital dilatation and rupture of the membranes, as outlined above. Hyoscine-morphine-cactin if used at all should be given in very small doses and very cautiously. Pituitrin is contraindicated unless the head is well down on the perineum and the patient is in good physical condition. I do not wait long before applying forceps.

In this connection let me state that where laceration is inevitable I do not hesitate to cut the perineum with the scalpel, preferably in the posterior median line between the sphincter vaginae muscles; thus a clean cut, involving no muscles, is to be repaired, rather than a ragged tear involving transverse perineal or sphincter muscles. Repair is very simple and gratifying and much trauma is prevented. The method has met with much adverse criticism but after observing it in a number of cases I have no reason to think it unscientific.

While an early diagnosis of position is always desired the outcome of the occipitoposterior position depends very largely on an early diagnosis. Although this position may be, and frequently is, borne, it is sure to be a tedious labor if not corrected. When an early diagnosis is made it is usually a comparatively easy maneuver to rotate to an anterior position. Anesthesia being complete, the hand is slowly introduced and dilatation made as outlined above, the head is firmly grasped, raised in the pelvis and turned either a quarter or half way around. The head is then allowed to settle into the brim, and labor allowed to proceed normally, or forceps may be applied and labor terminated at once. In case the above method fails, which it seldom will, cesarian section or other operative procedure may be necessary.

The amniotic fluid within the membrane is Nature's cervical dilator and authority agrees that during the course of normal labor the membrane should but rarely be ruptured, and when ruptured it should be after the cervix is fully dilated. Under strictly normal conditions we all agree, but when the bag is short I can find very little advice, except to "wait for Nature."

Here let me say that while the old adage "wait for Nature" has had a useful mission, it has certainly been overworked and a too close adherence to it has been responsible for many hours of untold agony.

In the matter referred to above, I find it to be a very frequent cause of delay. When the membrane does not protrude through the cervix, much patience and energy are wasted although the contractions are normal. Here the sac should be ruptured early, allowing the head to settle down. The procedure then is the same as outlined on the preceding page.

In conclusion, let me say that the foregoing is not an effort to enlighten the medical profession, but a few of the more common causes of prolonged childbirth have been touched, and briefly the methods of meeting these conditions with the view of preventing needless suffering as well as injury.

I sincerely hope the neglected subject of obstetrics will be given the research which its dignity demands, and which has attended the other branches of our art and that very soon the world may be populated with the agony eliminated.

DISCUSSION

Dr. W. J. McGill, St. Joseph: I have been observing the articles on so-called twilight sleep, or the use of scopolamine-morphine in labor. I have used this method in one case, with rather imperfect technic as I now understand it, and at the present time I am arranging to use this method on a series of cases, and I trust that before another year elapses I will be able to tell from personal experience something more about this method. In the case mentioned I used hyoscine hydrobromide and morphine, and administered one-fourth grain of morphine and 1/150 grain of hyoscine hydrobromide. I now see that I gave it a little too soon; the labor pains were not as severe and as frequent as they should have been. The patient was in labor something over twenty-five hours, and the second dose was given four hours after the first dose. The second dose consisted of one-eighth grain of morphine and 1/300 grain of hyoscine hydrobromide. In all, I administered the hyoscine four times in the twenty-five hours, and it became necessary to partially restrain the patient during the latter part of her labor. Some three-fourths of an hour before labor was terminated, I gave 1 c.c. of pituitrin. The contractions were very severe, and I found it necessary to give the patient a few inhalations of chloroform. The patient afterward stated that she remembered very little about the pain of the childbirth, but she made considerable noise.

Now, on account of my very limited experience with this method, I have drawn on the experience of others and have jotted down a few notes that I will read to you. It is absolutely necessary that the

patient be so placed that she will be free from all disturbing influences; a physician or nurse, or both, should be in constant attendance; the effects of the drug should be carefully noted and it should be repeated at proper intervals; the treatment should begin when the patient shows definite signs of labor contractions, say from five to six minutes apart.

Of course, the memory test is very important. The authorities advise exhibiting some object and then in a given time reexhibiting it and see if the patient remembers that she has seen it before. The interval between injections is said to be from one to one and one-half hours. Rongey advises the administration of 1/140 grain of scopolamin and a half grain of narcophin, followed in an hour or one and one-half hours by a second dose of 1/400 grain of scopolamin. I have not tried this method according to the plans laid down by Rongey.

The question of a suitable place for the patient, a suitable obstetrical home or hospital, is an important one. The great trouble is the noise in the average hospital. It is difficult to make the surroundings as quiet as one would like, but I believe that in suitably provided private homes, where a nurse trained in this kind of work is present all the time, the method should be tried out.

Dr. A. E. Platter, Memphis: Ten years ago, I believe it was, this came out and was advocated by one of the so-called "great specialists" of St. Louis. I think it was advertised all over the country. I was unfortunate enough to try it out. A brother practitioner in the town where I am practicing also tried it, and invariably, in any degree of dosage in which we would use it, we got "blue" babies. We do not know that we lost any babies by those experiments, but we did find the "blue" ones, and hence we discarded it.

Nearly all of this twilight sleep talk has come from a few hospitals in the cities. Most doctors in the country cannot carry it out; the noise and inconvenience that we have to put up with practically rule it out in country practice. In city practice, where you can send the patients to the hospital and treat them under the most elegant surroundings, it can possibly be worked out; but when you get out into the country, into the families, into the homes all over the state, you cannot go and stay for twenty-five hours, giving a little bit of morphin and a little bit of hyoscin and all that. Busy men in the country cannot sit down and give this course and have a nurse come around every few minutes to see that the patient is all right.

Dr. T. F. Lockwood, Butler: My early practice was in a country where many babies were born and were born according to Nature's good old plan. Pituitrin was not thought of and was not needed, and why? Because the women in the country at that time never ceased work. They had taken their exercises daily with their housework. But how is it today? As soon as the woman becomes pregnant, she will dress herself in a silken kimono and become a house pet to be admired by a few callers only. If she were to continue exercise she would not need the pituitrin. It is the intonicity of the abdominal muscles that calls for the use of the pituitrin or something to stimulate contraction.

Another thing, for which I think the doctors are much to blame, is so much being said in regard to pain, pain. We keep the fact constantly before our expectant mothers that they are going to suffer pain when they are confined. I believe that is all wrong. I believe it should not be called pain. We ought to teach them that it is Nature's function, it is a natural function to give birth to a child, and it must be

a natural contraction of muscle, and it should be called a contraction, and not pain.

I have found another thing quite useful in making my digital examination. As soon as I find the os sufficiently dilated to use the finger I go around the sac and break the adhesions. This should be done gently, because if you do not you will get an early rupture of the sac and lose the effect of the sac pushing down and dilating the os. Go high up around the sac and break loose the adhesions. That will allow the sac to come down and push its way through the os and will help you very much in dilatation. I do not like to use the rubber glove; I believe that we can sufficiently disinfect our fingers and can do better work with the naked finger than we can possibly do with the rubber glove. The glove blinds the eye on the end of the finger.

Dr. A. L. Gray, St. Joseph: I want to say just a few words about this twilight sleep. I have not used it as yet, but have sent for the outfit and will try it out cautiously. If you have looked at the literature on this subject, you have found on careful study of it that the consensus of opinion is not very favorable, and that it is felt that there is considerable risk in using it, especially to the babies.

These ladies who went over to Freiburg and reported their observations in *McClure's*, were two women who had never seen a birth in their lives, and the report they got in that country was from two or three women who had had births at this hospital, and also a report given them by Gauss and Krönig. When the *Ladies' Home Journal* came out it was also very favorable on this same subject, with the exception of three or four writers in the United States who reported against it, namely, De Lee of Chicago, Cook, Harris and Williams, four men who are authors and prominent men, and who have been there and attended this clinic for ten births or more. None of them reported favorably, and the few lines in parentheses in the *Ladies' Home Journal*, which state their opinions, should be worth more to us than hundreds of pages from women who have not seen a birth. In this country, we have few men who come out prominently in favor of twilight sleep. We have one woman in this town who has gone East and paid \$1,000 for this treatment, so I can see a reason for their advocating it. They report only 70 per cent. favorable—80 per cent. in another article—only this per cent. a success with the scopolamin and morphin. I do not believe it is a practical affair, but I am going to try it. I believe that when we get down to the reliable physicians who are trying it, we shall not find this method any better than the old methods that we have heretofore used.

Dr. T. G. Hetherlin, Louisiana: Rupture of the perineum can be greatly obviated if you get your patient under your control absolutely, and, as Playfair says, deliver the head between pains. I can readily realize that with a large head you might have a rupture, but in that case you can use the knife in the median line.

Dr. E. A. Burkhardt, Kansas City: I notice that we have a number of speakers on this subject from the rural district. I was talking with one such yesterday regarding this matter of twilight sleep. He said that he was not very anxious to use it, and his reason was just this, and I thought it a very plausible one: that if he should use it in a given case and that case should happen to have one of those accidents that may happen to any normal case, suppose he should use it with a woman who had a postpartum hemorrhage, the drug would be blamed and he would be condemned for using it.

My attitude on this subject, when I have been asked about it, is this: that I do not recommend it, for the reason just given. However, in the few cases that I have used this scopolamin-morphin treatment, the mother has told me that she did not feel the pain, did not have the suffering, and those women have living and healthful babies and they themselves have had no difficulty. I have had one case, however, in which there was a postpartum hemorrhage following the use of the scopolamin-morphin treatment, but I have had postpartum hemorrhages in cases where I did not use this line of treatment, and I do not blame the treatment necessarily in this one. However, my number of cases is so small that I would not be ready yet to give reports on them in the way of stating the percentage of hemorrhages, etc. Of course, there is some antagonism in the medical profession toward this. There is antagonism toward everything at first.

The printed instructions regarding the care of the pregnant woman I think are a very commendable thing. I have my stenographer write a letter to the prospective mother when she applies to me for care. I tell the patient I will send her a list of instructions. I also ask her to consult me in regard to anything she does not understand in the instructions.

Dr. M. J. Farber, St. Joseph: I regret that we have switched a little from the subject. In my opinion, obstetrics is a definite branch of medicine and ought to be followed by obstetricians. We are all of us in possession of definite knowledge that a mother and a future citizen are entrusted to us, and that we as physicians have the responsibility of caring and preparing for a future citizen and the mother who has to give birth to a child and we know of measures that will assist her and relieve her in labor. This branch of medicine is entitled just to skilled attendance just the same as I would be and would expect to have it if I were to undergo a laparotomy. I would not go to a general practitioner for that, but to a skilled physician who knows how and can perform a laparotomy. So when the obstetrician comes to the bedside of the lying-in woman he should be prepared to use every means that has been developed during the last centuries to assist, though it may be pituitrin, or morphin or chloroform or any other thing.

Dr. George A. Aiken, Malta Bend: The attitude has been taken by some that childbirth is a physiologic process and that the pain is a physiologic pain, and that we should do nothing to relieve that pain.

The point in my paper is that we have some means to relieve that pain, and while I have never had those pains, after having seen some long, tedious labors, I do not blame women for shuddering at the thought of childbirth. Pain is pain, whether you call it contraction, natural process or anything else.

The gentlemen have asked about the effects on the children. The point is brought out that the hyoscin when given is given only in very small doses, and if possible, after the separation of the placenta. The morphin, in any reasonable dose, does not produce cyanosis, in my experience. I have not used scopolamin. The point is, hyoscin is the chief factor in producing cyanosis, and it should be used very cautiously.

In regard to the rubber glove, it is my practice to use them for two reasons. The first reason is that all, you might say, of our surgeons concede that they cannot properly sterilize the hands, and after a little training, they tell me, they can feel just as well and as accurately and see just as well with the end of the finger with the rubber glove over it as they can without the glove. That is my experience. The second reason is that of self-protection.

SOME MODERN IDEAS IN DERMATOLOGY*

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"Whatsoever Adam called every living creature, that was the name thereof.

"And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field."—*Gen. II, 19, 20.*

The Scripture here informs us that man's first step in his knowledge of natural objects was to recognize and name them. Only later did he begin to learn something of their nature, of their relations to their environment, and to each other. This order has been since repeated in every branch of science, including medicine. First came the recognition and naming of diseases; then an investigation of the processes underlying them, followed in many instances by a discovery of their causes, and now we are seeking to learn why, or rather how, these causes, acting on various tissues, produce the phenomena of disease.

In dermatology we see Willan looking upon diseases as natural objects, and adopting a purely artificial classification. Later Hebra considered them as pathological processes, and for a time attention was centered upon the incident changes in the tissues. Then came the discovery of the exciting causes of infection, which for a time so dominated medical thought, that some seemed to imagine that the identification of its pathogenic organism was the ultimate step in man's knowledge of a disease.

To-day we are beginning to take a wider and deeper view, and to recognize in the processes and symptoms of disease phenomena of action and reaction, in which two factors are to be sought, namely, the specific action of the exciting agent, and the specific reaction of the invaded tissue, the latter modified, in many instances, by the presence of defensive substances in the body fluids.

Each tissue responds to irritation in its own way, that is by an exaggeration of its proper processes of growth and reproduction. Thus invaded epithelium manifests hyperkeratosis (simple hypertrophy) or parakeratosis, that is, rapid multiplication of immature and short-lived cells.

Connective tissue responds by the output of new fibroblasts and the upbuilding of fibrous structure. When the vessels are implicated they dilate, serum and leukocytes traverse their walls, and accumulate in contiguous territory.

It is here that tissue pathology finds one of its most obvious uses, for it tells us in which tissue the process began, whence we know by

* Read before the St. Louis Medical Society, April 24, 1915.

what route the invading agent entered and something at least of its characters, for the mode of reaction of any one tissue naturally varies with the properties of the invader.

As an illustration of the last point let us consider the two conditions to which the old name impetigo is nowadays applied. In Bockhardt's impetigo we see a lesion centered by a hair, from the first a pustule, relatively deep-seated and remaining of limited size. In Fox's impetigo the lesion is at first a vesicle, becoming perhaps a bulla, but not a frank pustule. It remains superficial and the resulting crust is rather upon than in the skin. The changes being within the epidermis, there is no connective tissue new formation, therefore no scarring. Why these differences? We must first look to the exciting agent.

The first of these conditions is due to a staphylococcus, which is cytotoxic rather than serotactic, that is, it attracts a host of phagocytic leukocytes, and relatively little serum. The other is a streptococcus infection, and streptococci never go "dry," but always "wet." They are heavy drinkers, serotactic rather than cytotoxic, and the resultant pathological changes require no microscope for their detection.

But the presence of this or of that exciting agent does not account for all the observed phenomena, for cases of streptococcal impetigo vary widely among themselves. In the newborn, the lesions are bullous, sometimes attaining enormous proportions, furnishing most, if not all of the cases of so-called "pemphigus neonatorum," fatal examples of which are occasionally observed. In older children the lesions are smaller and the disease milder, while in the adult the lesions are still smaller and the condition often little more than an annoyance. Not only is the streptococcus in these various types of one and the same species, but often of the identical strain, inasmuch as fatal bullous cases in infants have been traced to infection from mild adult cases.

Here the differences in external phenomena depend upon differences in tissue reaction, depending in turn upon anatomical and biochemical differences. In the first place the plane dividing mesoblastic from epiblastic tissue, at first flat in the embryo, in the infant still presents papillary prominences with sides less steep than do those of the adult. The epiderm is less securely keyed in, as a plasterer would say, and hence is more easily detached. The greater tendency of the infant to blister formation is noticeable in other diseases, syphilis furnishing a striking example. But perhaps of even greater importance are certain biochemical differences. In our journey through life, most of us contract occasional mild or severe streptococcus infec-

tions, often by way of the tonsils, thus begetting an increasing relative immunity. The infant on the contrary presents a virgin soil, for apparently a streptococcus antitoxin is not inherited as has been shown to be the case with diphtheria antitoxin.

As concerns certain other affections, the difference in power of resistance shown by the same tissues in different subjects remains obscure. Why does the *pediculus vestimentorum* affect the white adult and pass the child and the negro by? Why does scalp ringworm undergo spontaneous cure somewhere between the ages of eleven and fourteen? Is it an accumulating immunity? Why then is scalp ringworm unknown in adults, only a few of whom have had the disease in earlier years?

A close study of tissue reactions has led to a notable change in general opinion as to the rôle of the nervous system in the production of cutaneous disease. For a long time, urticaria, erythema multiforme with its congeners and some of the rarer dermatoses were considered as angioneuroses, even the drug eruptions being placed by some in that class. The vasomotor nerves were looked upon as prime factors in their production. Modern opinion has well nigh abandoned that view, and classes these diseases among the toxemias, assigning to foreign proteids and the anaphylactins they call forth the chief, and according to some, the exclusive rôle.

It has been shown that even in the most evanescent wheal there is a true inflammation beginning in the minute vessel walls. Vascular stasis is rapidly followed by edema and leukocytic infiltration of the immediately surrounding territory. In other members of this group, similar but better marked changes are noted, with denser infiltration, but in all it is clear that the process is an inflammation and a response to an irritant reaching the tissues by way of the blood vessels. What are these irritants?

It is now well known that many foreign proteids exert toxic effects, and that subsequent introductions of the same proteid, call forth a more violent, or sometimes merely a more prompt effect, or in case the first introduction awoke no such by-effects, these manifest themselves after later infections. So far from prophylaxis, there is its opposite, anaphylaxis. This is really the result of an attempt at the production of immunity by the output of a body, an anaphylactin, lytic or otherwise destructive of the invading substance. The host has thereby become sensitized to the foreign material. Not only will there be a general reaction to the toxin in the blood, but a local inoculation of the skin will determine a local reaction.

This principle is familiar in the von Pirquet and luetin reactions and is daily finding some fresh application. An urticarial wheal presents

a close analogy except that the toxin reaches the skin by the blood vessels, from within and not from without.

Doubtless some of the hitherto puzzling phenomena of syphilis admit of a similar explanation. Why is the roseola delayed six weeks after the chancre? We know that it does not take that long for the virus to become generalized, for the patient is immune to supplementary infection within twelve days or less, and his blood infectious even earlier. A positive Wassermann can be had long before the roseola. Is it not rather that it requires six weeks to sensitize the endothelium of the terminal skin capillaries, that is, to permit it to acquire the property of furnishing a lysin which by attacking the contained spirochetes and thus setting free their endotoxin will awake the reaction which we call a roseola? That it takes longer to sensitize the surface is shown by the fact that the luetin reaction at this stage is negative. A Herxheimer reaction depends upon a wholesale liberation of endotoxin. This suggests that the phenomena of syphilis may be due not to living spirochetes but to those that have died. It also suggests that there is no fundamental pathological distinction between zymotic and toxic disease.

The rose rash of typhoid presents a close parallel to the roseola of syphilis, inasmuch as here too the invading organism has been found in the terminal vessels and immediately contiguous tissue. Doubtless the same will ultimately be shown to be true of all the exanthemata.

In syphilis the production of antibodies continues until there is produced a temporary local immunity. Skin manifestations disappear, even without treatment. Later this immunity wanes and tertiary lesions occur, perhaps from hold-over spirochetes, at the sites of former secondary lesions, or at points of lowered resistance from traumatisms or other noxa.

Only recently has it been shown that the same forces are at play in the most superficial of all dermatoses, namely, the ringworms and their congeners. That a true lytic body is produced by the epidermis and is absorbed into the blood is shown by the fact that a true skin-reaction can be obtained with extracts of the various fungi, and by the still more surprising discovery of a complement-fixing blood reaction obtained with such extracts as antigens.

In pityriasis rosea a single patch appears and for ten days or so holds undisputed possession of the field, while it slowly extends at the periphery. Then suddenly, as though a shrapnel shell had burst, and scattered its fragments, there appear twenty, thirty, a hundred new small, widely-distributed patches. This has long

furnished a curious puzzle. In the light of our added knowledge of ringworm, I would hazard the suggestion that we have here another illustration of a slowly culminating sensitization.

The shortened incubation in revaccination is again an instance of incomplete immunization or *allergy*.

It would therefore seem that in the toxic and infectious diseases the clinical manifestations at the surface are due to sensitization of the tissues, that is, to their ability to put forth a lytic substance which by causing the disintegration of some of the invaders, thus liberating their contained toxins, or by entering into some combination with the foreign material, causes the lesions characteristic of the disease.

I have essayed by these few examples to give some idea as to how we view the phenomena of skin disease, regarding them as the results of certain specific actions and reactions, thus broadly generalizing, as far as seems justifiable, rather than remaining satisfied with a recognition of forms.

It may have been enough for good old Doctor Watts to say,

"Let dogs delight to bark and bite,
For 'tis their nature to.
Let bears and lions growl and fight
For God has made them so."

But modern science demands more specific reasons.

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HEREDITY *

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This paper is somewhat of a digression from the usual run of papers that find their way into the sacred precincts of a medical society, yet it is upon a subject of much vital importance to the physician as well as to his clientele. I refer to the subject of heredity.

This subject has been studied and discussed a great deal. Plato held that certain laws of heredity were applicable to the human race and taught the evil effect of bad heredity. It is through the laws of heredity that we have the beautiful rose with its various colors and fragrance. It is by this law that Burbank was able to produce the famous Burbank potato.

Through the intelligent application of these laws and proper surroundings man and nature have produced the fancy breeds of poultry, the pointer and setter dog, Berkshire and Duroc

* Read before the Fifth District Medical Society.

hog, the Southdown and merino sheep, the Durham, Jersey and Holstein cow, the Percheron and Hambletonian horse.

Nature gave us the long-nosed, razor-backed, hazel-splitter Arkansas hog. Nature and man, through the intelligent application of the laws of heredity, gave us the Poland China.

Nature gave us the long-horned, crooked-limbed, brindle cow. Man and nature gave us the Hereford.

Nature gave us the wild horse that could trot a mile at the best in six minutes. Man and nature gave us the Hambletonian that can trot a mile in less than two minutes.

By this we see what man has produced in the animal and vegetable kingdoms by the intelligent application of the laws of heredity. Let us think of what he has done in applying these laws in the betterment of humanity.

Has he applied them as intelligently as in the former case? No, we find that he has not. Our government will spend millions in preserving our forests, reinhabitating our streams with the finny tribe or in protecting and developing our lower animals, while man, the crown of God's creation, goes neglected. In sacred and profane history we find some noble specimens of manhood, but look at manhood in the mass—how few good specimens of manhood we find in a crowd of one thousand men.

Look at the enervated and stunted fathers, nervous and sickly mothers and the puny and weakly children. Why should 67 per cent. of our children be physically or mentally weak at birth? Why should 165 out of every 1,000 born in country places and 220 in the city die in the first year? Ninety-five per cent. of well-cared-for lower animals are perfect at birth; 90 per cent. grow to old age.

Why should crime, insanity, epilepsy and feeble-mindedness have increased 300 per cent. in the last twenty years?

In the early history of Rome, customs and laws made it a special duty and honor to be a Roman mother; she was surrounded by examples of courage, strength, power, heroism and purity. I doubt if Rome would have fallen had she maintained this high respect for motherhood. Do we maintain the respect for motherhood that we should? I fear not. Max Jukes and his wife were both born of inferior parents; he was a drunkard, she a prostitute. Of his descendants 1,103 have been identified and studied and this is what we find: 126 thieves; 90 female prostitutes; 125 drunkards; 285 viciously diseased; 400 had consumption, epilepsy or feeble-mindedness.

So much for bad heredity. Now let us study a case of good heredity. Jonathan Edwards

was born in 1720. He and his wife came of good parents, well educated, or in other words had a good heredity. Of his descendants 1,394 have been identified and studied and we find 13 university presidents, 123 college professors, 32 authors, 96 physicians, 200 ministers, 400 successful business men, 1 vice-president, mayors of large cities, senators, congressmen, ministers to foreign countries; and only one left a stain on the family record (Aaron Burr). This is only one case in many where you will see that like begets like.

Seventy per cent. of fallen girls had either drunken parents or parent. In one state prison, 72 per cent. of the inmates had drunken parents. Investigation in one of the reformatories for women revealed the fact that 85 per cent. had drunken parents. Bad surroundings and bad heredity explain the presence of every inmate of our penitentiary and asylum.

An experienced stockman will not breed young undeveloped animals and expect to get strong offspring.

All physiologists place man's age of development at twenty-four; woman's about twenty; hence marriage prior to the age of development cannot be expected to produce, strong, healthy, robust boys and girls. Therefore children should not marry. This has been amply demonstrated in France, where they marry young. The children are short, stunted and sickly. France has had to reduce her standard height for her soldiers from this fact alone. Were Napoleon to come back and view the army of his fatherland he would look upon them with shame to think that his people had deteriorated so much. A great many of the inmates of our asylums and institutions of similar character have all the ear-marks of hereditary syphilis.

Heredity and reproduction—life—what is it? This question has been asked thousands of times and there has been as many failures to answer. The materialist has failed to produce life by the aid of the scalpel, chemistry, or what not. Sexuality is God given and God honored. Sensuality, sexual perversion, is acquired by man through habits, thoughts, and association. Sensuality has greater influence on the offspring than probably any other one thing. Sensuality is the greatest sin that the American people have to deal with and they should be educated and taught the truth about these things.

The young married couple should have a sane knowledge of sex and the marriage relations should not be overindulged in. The hereditary influence of the father ends at the initial of the child's life, but the mother's influence continues on that child during the entire period of gestation. She should be cheerful, not cross

and angry, and looking forward with happiness and fond pleasure to that time of times.

All sorts of drugs and contrivances have been devised to prevent the natural result of sexual intercourse. Every attempt of this kind has resulted in some physical or moral injury and has strewn their pathway with a horde of physical weaklings and degenerates.

There are one and a half millions born in the United States annually. It is estimated that 250,000 abortions come under medical care annually; 1,000 prenatal murders per day; then there must be 100,000 attempts to destroy unwelcome life which fail. Children born under such conditions cannot have a good heredity. It is claimed by the best authorities on heredity that in an unsuccessful attempt to murder an unborn that the child will have suicidal or homicidal tendencies.

A certain physician of St. Louis gives the following testimony: A lady who stood well in society and the church came to him requesting his service in murdering her unborn child. She gave as her only reason that she had three children and her husband's income was not sufficient to support four. The doctor suggested that if one more would cause the entire family to starve, she should go home and murder one of the three. She was horrified and amazed that her physician should make such a suggestion, but he explained that if she followed his suggestion her health would be protected and there would be only one guilty of murder, whereas if he did as she desired her health would be injured and there would be two guilty of murdering her unborn child. The doctor explained that the little embryo is as much a human being as when it was strong enough to move. The true mother love triumphed and she returned home resolving to protect, welcome and toil for four instead of three.

I do not care to bore you further, and in conclusion will say that the public should be educated along this line. Those afflicted with hereditary disease should not marry. A neurotic should not marry a neurotic.

A person coming from a family of drunkards should not marry into a family of similar character; likewise a person coming from a family of criminals should not marry into a family of similar character.

If the American people were educated to these facts and gave as much time and attention to the improvement of the human race as they do to the improvement of the lower animals, we would have to tear down jails, asylums, and penitentiaries, instead of building more, as is now the case.

AUTOGENOUS SERUM THERAPY IN CERTAIN DERMATOSES*

RICHARD S. WEISS, M.D.
ST. LOUIS

Recent articles by Howard Fox and M. L. Ravitch in *The Journal of the American Medical Association*, reviewed the question of autogenous serum therapy in skin diseases. To discuss this subject very briefly, and to report on four cases in which the serum appeared to be of some value, is the object of this paper.

Fox admits that the use of autoserum alone is of no value in the treatment of psoriasis. Ravitch agrees with him in this. Fox further states that autoserum is of decided value when used in conjunction with chrysarobin externally. Ravitch, on the other hand, says that "autoserum is not an ideal or effective remedy"; and, further, "that a judicial and careful use of chrysarobin externally, with the employment of a suitable drug internally, is as efficient as the autoserum therapy." Ravitch's statement coincided with my ideas on the subject as gathered from the literature, so I reserved my use of autoserum for those resistant cases which would yield to no other treatment. I am including in this report a case of severe chrysarobin dermatitis bordering on an exfoliative dermatitis, and a case of chronic eczema, both treated with autoserum.

The following technic was used in preparing the serum: From 50 to 60 c.c. of blood were taken from a vein under the usual aseptic precautions, allowing the blood to flow directly into centrifuge tubes. After clotting had occurred, the tubes were placed in a high-speed centrifuge until serum free from corpuscles was obtained. The serum was then removed from the clot with a syringe and immediately injected into the subcutaneous tissues below the scapulae. From 10 to 15 c.c. of serum were obtained each time, and the injections were usually given at five-day intervals. In no case was the serum given intravenously.*

The first case which I wish to report is from the Barnard Free Skin and Cancer Hospital.

CASE 1.—The patient, white, male, aged 38, entered the hospital on Aug. 31, 1914, with a well-marked eruption of psoriasis and staphylococcic dermatitis. He was immediately placed on treatment with various ointments (including chrysarobin) and diets, and showed steady improvement until October 30, when he was discharged. At that time the eruption was almost entirely gone. He returned to the hospital on December 12 with a much more extensive eruption and was placed on treatment again. On December 31 the use of a 5 per cent. chrysarobin ointment

* Read before the St. Louis Medical Society, April 24, 1915.

* The serum was prepared in most instances by Dr. George Ives.

was begun. By Jan. 2, 1915, this had set up such a violent dermatitis that its use had to be discontinued. The dermatitis involved almost the entire body. The skin was hot, red, and tender and the patient suffered severely from burning and itching. In parts of the body exfoliation was beginning. He was treated with salves and lotions until March 29, with practically no change for the better. Internally, Kendall's thyroid B was given without any noticeable effect. A course of emetin injections for pyorrhea had no effect on the dermatitis.

On March 29 he was given the first injection of autoserum. On April 3 a second injection was given. The patient now began to show decided improvement both subjectively and objectively. The deep erythema became much paler and areas of white normal skin appeared. Two more injections were given, one on April 12 and one on April 18. When last seen the skin was only slightly reddened and many entirely normal areas were present. The burning and itching were entirely gone, the patient having no subjective symptoms whatever.

In discussing this case the question might be asked, was autoserum responsible for this man's improvement? Chrysarobin dermatitis usually gets well in a comparatively short time without any treatment; possibly this man's dermatitis was due to get well. When we consider, however, that it had lasted almost three months, was showing exfoliative features and no other treatment had helped, we are forced to the conclusion that autoserum was responsible for the patient's improvement.

CASE 2.—This case is also from the Barnard Free Skin and Cancer Hospital. The patient, white, male, aged 66, engineer by trade, has been treated at the clinic and in the hospital since 1912 for a severe general eczema. On March 10, 1915, he was admitted to the hospital with an erythematous squamous eczema of the forehead and eyebrow region. He complained of severe burning and itching. Various ointments and diets gave no relief. Kendall's thyroid B was also without effect.

Beginning April 9 he was given three injections of autoserum at about five-day intervals and on April 21 his condition was much improved. The subjective symptoms had almost disappeared and the skin, while still red, felt softer and not so tense as formerly.

Here we have a case of chronic eczema which seems to have been decidedly helped by autoserum, but whether or not the psychic element in the treatment can be ruled out I am not prepared to say. Also, the point might be raised that the removal of a few ounces of blood every five days may have produced the improvement.

CASE 3.—Private patient. White, male, aged 30, fireman by occupation, has been under my care for the past three years. Has had psoriasis since the age of 10. Since first seen, in spite of the use of various ointments (including chrysarobin) and internal treatment and diet, he has never been free from the eruption.

The patient, when seen on Feb. 26, 1915, presented an eruption of silvery scaled plaques, thickly scattered over the trunk and limbs. There was very severe involvement of the scalp.

On February 27 he was given an injection of 10 c.c. autoserum and the use of a 2 per cent. chrysarobin ointment was begun. On March 1 the itching had ceased. Scales were falling off all the plaques and from the scalp in great profusion. March 3 a second injection of 13 c.c. autoserum was given. March 6 very great improvement was noted, also slight chrysarobin dermatitis. March 8 the third injection of autoserum was given. March 13 the eruption had almost entirely cleared up. The fourth injection of autoserum was given March 15. Only a few tiny scaly papules were now left on the arms. There was some chrysarobin dermatitis, but no discomfort. March 18 the fifth injection of autoserum was given. The use of chrysarobin was stopped. March 24 all the lesions had disappeared and also the chrysarobin dermatitis. On April 10 the patient was again seen and the eruption was beginning again. A few small plaques had appeared on his back and arms.

Here we have a case of psoriasis previously treated very vigorously in the orthodox way with practically no result. On the administration of autoserum and the use of a mild chrysarobin preparation, the eruption promptly cleared up. Did the blood-letting help this man? I think not. Fox ran a series of controls with some of his cases and showed that bleeding had no effect on the psoriasis. Was there any psychic element involved? Linser controlled some of his cases by running a series with the use of saline solution instead of serum and had no results with the saline. I therefore am inclined to believe that the serum helped in this case.

CASE 4.—Private patient, white, female, aged 30, housewife. Psoriasis since childhood. Has never been free from the eruption. Under my care for the past two years, during which time various diets, drugs and ointments (including chrysarobin) were tried with very little success.

When seen on March 3, 1915, she presented a typical psoriasis of rather wide distribution. The scalp was markedly affected. On the forearms and elbows were very large, indurated, scaly plaques. The trunk presented scattered nummular patches and on the legs and thighs were seen moderate-sized, indurated plaques. From March 13 to April 4 five injections of autoserum were given at from four to five-day intervals, and mild chrysarobin ointment applied. It was twelve days after treatment was started before a mild dermatitis was set up. The lesions began to improve slowly about the fifteenth day. On April 4 the large plaques had entirely disappeared and the scalp was clean. When seen on April 20 new small papules were appearing on the arms and back.

Case 4 is quite similar in results to Case 3 and the same remarks would apply. The results, however, were slower and the case was not so spectacular.

To summarize: Under autoserum therapy one case of chrysarobin dermatitis bordering on an exfoliative dermatitis was practically cured. One case of eczema was improved. Two cases of psoriasis, intractable to other treatment, were very much improved; in one of them the erup-

tion entirely disappeared. In both cases the eruption began to return in a few weeks.

No conclusions can be drawn from these few cases. Neither can we make any definite statements as to the value of this procedure from a study of the cases reported in the literature. But I do believe we are justified in taking the following view of this subject:

In cases of psoriasis which do not readily yield to ordinary methods of treatment, auto-serum therapy should be tried.

Certain cases of universal dermatitis should receive this treatment, both in the hope that it may help the patient and for experimental reasons.

Autoserum therapy does not cure psoriasis. The lesions will probably return with the same degree of rapidity as in those cases treated with the ordinary means.

Finally, as far as I have been able to ascertain, no adequate explanation of the action of autoserum has been proposed.

Wall Building.

PANAMA BEFORE THE ADVENT OF DR. GORGAS*

J. ELLIS JENNINGS, M.D.
ST. LOUIS

While we are waiting for Dr. Gorgas, it occurs to me that I might give you some idea of the wonderful work he has done on the Isthmus by presenting to you a picture of conditions existing there before he arrived. After I graduated in medicine, the first thing I did was to go to the Isthmus of Panama. This was in 1887. I went as assistant surgeon to Dr. Thorington, who was surgeon of the Panama Railroad, and I remember observing as the steamer came up to the dock, how pale, yellow and sickly everyone looked. It was a hotbed of fever at that time, and one of the most unhealthy spots on the face of the earth. I lived there for three years and jumped into an active practice from the day of my arrival. Now imagine Colon, a low, flat island, with cocoanut palms dotted here and there; so low that as you approach it each wave seems about to sweep over the island. During the rainy season much of the town was more or less under water. At that time the main street was a big mudhole and I have seen a mule drawing a cart stumble, fall in the mud, and drown before he could be pulled out. The main street was lined with frame houses built in the Spanish style and

every other building was a saloon with a gambling den in the rear, all of them wide open and doing a flourishing business. The climate was so enervating that everybody seemed to need a stimulant of some sort. One would get up in the morning feeling worse than when he went to bed. Owing to the excessive moisture our clothing was damp and clammy and, naturally, you needed some little stimulant to fix you up for the day's work. Back of the main street was a street called Bottle Alley, very appropriately named from the great number of empty bottles thrown into the discard.

Of course there was no drainage or sewerage system of any kind. The houses were raised about a foot above the ground and were supported by brick or wooden piles. There were no sidewalks in the back streets, only a series of boxes and boards laid over the mud and water, and one had to be quite active and skilful to avoid landing in the mud.

Our supply of drinking-water was obtained from a very large covered cistern or tank placed behind the house. It was filled during the rainy season by connecting it to the spout of the roof. But in the back streets of the town the poor people collected the water in buckets and barrels. Naturally, they were uncovered and became the breeding places of millions of mosquitoes which with our present knowledge we now know to have been the cause of the fever.

At that time the Isthmus of Panama was the Mecca for adventurers from all parts of the world. Money circulated freely and drinking was the order of the day. The laborers were well paid and the Frenchmen spent a great deal of their time drawing their salaries, gambling and driving dull care away. Among these adventurous spirits were many sailors who had deserted the ships in the harbor. They were not very particular about the brand of whisky they drank and after getting dead drunk lay down on the dock to sleep it off. There they were the prey of the mosquitoes and in a few days developed the dangerous Chagres fever and often died on the street. In fact it was a common occurrence to find a dozen or more dead men on the streets every morning. Open coffins were placed at convenient intervals about the docks and freight-houses, and when a policeman saw a dead man, he called a comrade, placed the body in a coffin and carried it on their shoulders to the dead car. This car was painted red and stool on a siding just back of the house in which I lived. It was, you see, very conveniently located. Every afternoon at 4 o'clock the funeral train, consisting of an engine, the dead car containing all those who had died that day, and several passenger coaches

* Impromptu remarks at the meeting of the St. Louis Medical Society, May 1, 1915.

for relatives and friends, started for a free ride to the cemetery, a place called Monkey Hill. When Monkey Hill was reached, the bodies were dumped into shallow trenches and the coffins were brought back for use the next day. So you see life and death down on the Isthmus was very strenuous.

At that time we did not know the cause of yellow fever, and naturally it was much feared, especially by the new men who were not acclimated. When I went down from Philadelphia I dreaded it myself, especially as I was called upon to treat it; so not knowing how soon I would catch it, I interviewed an old Spanish doctor and said to him, "Doctor, how shall I protect myself from yellow fever?" "Well," he said, "I don't know; the only thing I follow is, when I go into a house to see a yellow fever patient I smoke a cigar." So after that when I went to see a case I did the same and of course we can see now that it was a good way to keep off the mosquitoes.

After some experience it was possible to tell a yellow fever patient as far as you could see him, by his peculiar appearance. When a man first gets yellow fever he does not look yellow; his face is swollen and red, his eyes injected, and he has a dull, don't care look. It is only toward the end of the fever that the jaundice appears. The black vomit is not necessarily fatal. It is blood which exudes into the stomach, becomes coagulated, and black from contact with air, and when vomited has the characteristic coffee-grounds appearance.

We seemed to have the most yellow fever just between the rainy and the dry seasons; heavy showers alternating with hot sunshine. When an employee died of yellow fever we had orders to burn up everything in the room. The iron bedstead, the wardrobe, chairs and bedding were placed in a pile on the beach and burned. I remember on one occasion after we had cleared the room we ran across a good-sized keg in the closet. On inspection we found it contained a fine quality of whisky. I said to Dr. Thorington, who was with me, "I don't think it is necessary to burn that keg, do you? Whisky can't carry yellow fever?" He thought not, and so we compromised and kept the keg, using its contents, of course, for medicinal purposes. It used to be said on the Isthmus that every tie on the Panama Railroad cost a life; certainly the deaths were very numerous, especially from pernicious malaria, or "Chagres fever," which was more deadly than yellow fever. We had possibly twenty-five to fifty cases of yellow fever a year, but had many times that number of bad cases of pernicious malaria. None of the houses were screened and the only protection

we had was mosquito netting over the bed. The mosquitoes were not so large as the well-known Jersey variety nor the song so loud, but they were much more deadly, and as they fairly swarmed on the island all the inhabitants had malaria in some form. To be acclimated meant to have chronic malaria. When a ship came into port, and as long as she remained, each member of the crew was given 10 grains of quinin daily in a glass of whisky, as an inducement to take the quinin, and in this way the men were kept in a healthy condition. The worst sufferers from malaria were the laborers up the line who slept in thatched huts unprotected from the mosquitoes. Working under these conditions, they soon developed chills and fever, became pale, anemic, with large livers and spleens, and finally had an attack of the pernicious type of the fever, and if a doctor was not called quickly they died in a few hours. The patient was found unconscious and in collapse, with hardly any pulse and a temperature of 106 or 108. Our usual treatment was to give a hypodermic injection of a solution of quinin, one dose in each arm and in each leg. Then we left, saying, "Well, good-bye, send for me in the morning if you want me." He would either be beyond help or that one treatment would cure him. Warburg's tincture was very much used at that time in the treatment of malaria.

I never had yellow fever, but had one attack of pernicious malaria and certainly the experience is far from pleasant. After having gone to bed and fallen asleep one usually thinks he is safe until the next morning. But not so. In this case in the middle of the night I was awakened by a terrific chill and got up to go down to the office for some medicine. At the top of the stairs, I sank to the floor, became unconscious and did not come to my senses until the next day, when I felt pretty seedy. The Isthmus of Panama was no place for homeopathy. I remember a friend of mine, an English engineer, had an attack of pernicious malaria while on a visit to England. The local physician gave him three grains of quinin three times a day and he died. If some one had been called who knew how to treat such a case and had given him 20 grains of quinin every hour, or hypodermically, if necessary, no doubt he would have pulled through.

These were the conditions on the Isthmus of Panama when Colonel Gorgas arrived. You can appreciate the wonderful work he did in stamping out yellow fever and in almost eradicating malaria, so that in a short time this pest-hole of fever was as safe and healthful as any of our northern cities.

Carleton Building.

ERYTHEMA MULTIFORME WITH CONJUNCTIVAL INVOLVEMENT*

MATTY LEE C. BARNETT, M.D.
ST. LOUIS

The case which I present tonight being of an unusual nature, I have been unable to find many references to it in ophthalmic literature, but have gathered the data I offer from Stelwagon on Diseases of the Skin and Sajou's *Cyclopedia of Practical Medicine*.

Mr. K., aged 26, of Baldwin, Ill., came to me for the first time October 26. He gave a history of frequent attacks of tonsillitis and rheumatism and two months ago had had typhoid fever. The first day he was able to resume his work on the farm he was struck by a bale of hay, suffering injury in the left inguinal region. This confined him in the hospital three weeks. He had been home three days when he felt intense burning in the eyes that grew worse and he was unable to sleep that night. In the morning the lids were red, swollen and an eruption appeared on the lower lids which extended over the margins up on the conjunctiva to the cornea. The second day a similar eruption made its appearance on the neck and a few on the dorsal surfaces of the arms; one appeared later on the mucous membrane of the mouth. The patches varied in size and contour, some as small as a dime, one as large as the palm of the hand. They increased in size for three days then remained stationary.

The patches were of annular shape, with a clear center. The base was very red, almost violaceous. On the maculae were vesicles of rather uniform size. One lesion seemed to be formed of several rings which had coalesced, serpentine lines or bands resulting. From this the diagnosis of serpiginous syphilide was made by one physician who saw him in my office. There were no accompanying symptoms of irritation as itching, swelling of one or more joints or febrile disturbance. Except for the eyes he suffered no discomfort.

Being unfamiliar with the lesions, I referred him to Dr. J. J. Houwink, who diagnosed it erythema multiforme, of tubercular and bullous variety. I gave him iodid of potassium, 15 grains three times a day and applied locally sodium sulphate, $\frac{1}{2}$ gram to 1 ounce water. He improved rapidly and Tuesday, eight days after his first visit, went back to his home.

The etiology of this disease is obscure. Rheumatism, malaria, Bright's disease and digestive disturbance are given as predisposing causes. It occurs especially during the spring and autumnal seasons, and Hutchinson regards it as a catarrhal disease, that is, the same causes which produce catarrh in people with susceptible mucous membrane produce this disease in those with susceptible skins. The disease frequently recurs at regular intervals and all ages are affected. Certain drugs may influence an attack and the administration of potassium iodid must be judicious or it may aggravate the condition.

There may be much burning or itching, although these symptoms are usually wanting.

Boric acid in saturated solution affords quick relief in these irritations. When due to a digestive disturbance, saline laxatives, cod liver oil, phosphorous and at times strychnia are valuable in tubercular forms. Stimulating remedies are often beneficial, and ichthyol is mentioned as especially serviceable in the vesicular variety of bullous type.

The prognosis is favorable, although Vidal and Lelou have reported several deaths from erythema multiforme. It has a tendency to disappear spontaneously in from two to four weeks, although relapses are common. In some cases relapses occur so frequently it assumes a chronic aspect.

The papular variety, appearing usually on the hands and forearms, is a most common form and a predilection is shown for the mucous membrane of the mouth, often making swallowing almost impossible, but the tubercular and bullous types are rare. Dr. Houwink remarked he had seen but few of the variety we are considering tonight.

Metropolitan Building.

SOME CONVENIENT STEREOSCOPIC FIGURES*

W. E. SHAHAN, M.D.
ST. LOUIS

With cross-eyed children a perfect cosmetic result is often obtained by the use of correcting glasses for the attendant hypermetropia. In these cases it is always desirable to know whether or not the crossing eye has simply turned into a position where it looks straight without having gained its normal function of binocular vision. If we can make sure that the child has stereoscopic vision we can feel reasonably certain that the eye will always remain useful and straight. If we cannot make sure of this we can never know what the usefulness or position of the eye may be in later life. In tests with children stereoscopic figures should be reduced to their simplest terms and should be of such a design as to attract the child and enlist his active cooperation. Such figures can be easily obtained at various paper stores, as, for instance, the Dennison Manufacturing Company. They come in the form of gummed seals of various sizes and numerous multicolored designs. Some are Christmas and New Year seals, some are fantastic Halloween designs, such as witches, black cats, pumpkin heads, etc. Others are conventional designs, such as hearts, stars, flags, etc. With a collection of these a number of stereoscopic charts can be con-

* Read at the Nov. 4, 1914, meeting of the Ophthalmic Section of the St. Louis Medical Society.

* Read at the meeting of the Ophthalmic Section of the St. Louis Medical Society, March 3, 1915.

structed that will excite active interest and cooperation and elicit stereoscopic vision if the patient has any.

These charts are simply constructed and have a number of blank cards cut of a size that will fit into the holder of your stereoscope. Through the center of each of these draw a vertical line. On either side of this vertical line draw three parallel vertical lines, one 30 mm. from the central line, another 33 mm. from it, and the last 36 mm. from it. There will then be three pairs of parallel lines measured from the central line, the outer pair will be 72 mm. apart, the middle 66 mm. apart and the inner 60 mm. apart. Six identical seals are used for each chart; two of them are placed over the outer lines, two over the middle ones and two over the inner ones, each pair being on the same horizontal lines. The seals will then be, respectively, 72, 66 and 60 mm. apart in horizontal lines. In the vertical direction there should be about 5 mm. between each pair. When these, arranged in this way, are observed through the stereoscope by a patient with binocular vision, the seals farthest apart will appear largest and farthest away from the patient, while those nearest together will appear nearest the patient and smallest. The intermediate ones occupy an intermediate position. In using these tests with children, simple direct questions should be asked. "Which is the biggest pumpkin?" "Which is the littlest?" "Which is the farthest away?" "Which is the closest to you?" "Is the top one right straight over the bottom one, or a little to one side?" The answers to these questions will indicate definitely whether the patient has or has not stereoscopic vision.

The theory of this is well known and may be easily deduced from a study of stereoscopic photographs. If the distance between any two identical points on an object in the background is measured, and also the distance between any two identical points on an object in the foreground, it will be found that identical points in the foreground are nearer together than those in the background.

The effect of solidity, perspective, etc., is therefore obtained solely by the different degrees of convergence required to bring corresponding parts of the two pictures together. If the pictures are in a principal focal plane of the stereoscopic lenses, pencils entering the eyes from them will enter as parallel pencils and accommodation will play no part. If, however, the pictures are brought nearer the lenses accommodation will be brought into action and the stereoscopic effect will be accentuated.

In ordinary stereoscopic photographs the difference in the distance apart of similar points

in the foreground and in the background is not often more than 2 mm. This may be designated as the stereoscopic difference and is a measure of the stereoscopic effect of the pictures. Photographs in which the stereoscopic difference is no greater than 0.20 mm. appear almost flat. It was found by experiment with the above seals that a stereoscopic difference of 6 mm. was easily within the power of convergence, and gave marked stereoscopic effect. By using the intermediate pair as a sort of stepping stone, a total difference of 12 mm. was found to be easily practicable, and gave very marked stereoscopic effect. If the intermediate pair is not used the abrupt jump of 12 mm. is too violent for the power of convergence and no stereoscopic effect is obtained. More than three pairs also crowd the power of convergence too much. The fact that the seals farthest apart appear larger than the others, is a visual illusion. In ordinary life, if we look at an object in the foreground, and it makes on our retina an image of the same size as another object in the background, we know at once that the object in the background is larger than the one in the foreground. The seals placed nearest together require the greatest convergence, and appear to be in the foreground, while those farthest apart require least convergence, and appear to be in the background. They are all the same size and the same distance from the eyes. The images formed by them on each retina are therefore the same size. In consequence of this, those in the foreground are judged to be smaller than those in the background.

This apparent difference in size with a stereoscopic difference of 12 mm. is so marked that it is perfectly proper to ask a patient directly, "which is the biggest," without explanation or apology for the deception.

Metropolitan Building.

SOME FAMILY TASTES WHICH ARE MUCH ALIKE

Dr. V. O. Williams of this city has a brother, Dr. Porter Williams, living at Bunceton, Mo. Within the past few weeks each brother has chosen a plan for the erection of a dwelling and neither knew anything of the style chosen by the other.

A few days since Roy Williams was here from Booneville and was shown the house plan selected by Dr. V. O. Williams. "That is precisely the home which Dr. Porter Williams is building," said the visitor.

"But," said Nevada's Dr. Williams, "the houses won't look much alike for I have arranged to change the plan to a square roof."

"And that," laughed his friend, "is exactly what Dr. Porter Williams has done to his roof."—Nevada (Mo.) Post.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3525 Pine Street, St. Louis, Mo.

AUGUST, 1915

EDITORIALS**AN INVITATION TO ADVERTISE**

Members who give special attention to diseases of the eye will probably be invited, if the invitation has not already been extended to them, to advertise their specialty in a somewhat novel and catchy fashion, faced with innocence and legitimacy, but, in fact, a neat little scheme to circularize the public.

The scheme is to print your name and address and the words "Eye, Ear, Nose and Throat" on a cloth eye-glass cleaner said to be chemically treated to take up grease and dirt.

We must adhere strictly to our propaganda for cleanliness, even to the extent of advising that eye-glasses be kept clean, but an objection that occurs to us concerning this particular proposition is the necessity of carrying a large stock and a great variety of colors (the cleaners come in all hues of the rainbow), for serious results to one's popularity might follow the thoughtless gift of a cleaner tinted in disharmony with the complexion of the patient; it might even be necessary to present a variety of colors to the fastidious, especially to the fair sex who would want a separate color for each gown, not to mention the changes in the complexion—due, of course, entirely to the baneful effects of eye-strain on the color of the skin.

It seems to us it would be absurd for an oculist to carry a pocketful of these "wipers" containing an advertisement of his specialty and circulate them promiscuously—the temptation would be too great to resist—and then try to avoid the issue sure to be raised that such an act is advertising. Comparatively few oculists fit and sell glasses. The great majority of them prescribe glasses and the optician fits and sells them. If those physicians who do fit and sell glasses want to take chances with their reputation as connoisseurs in the art of matching colors they can obtain a supply of cleaners from their supply houses without printing or advertising matter of any kind. The source of the gift will linger just as long in the memory of the Grateful Patient, who will not, of course, know that the cost of the bauble, multiplied sev-

eral times, has been included in the price of the glasses.

What is there about the practice of medicine that invites the cupidity of so many irrestrainable promoters? Constantly must we guard against the avarice of exploiters of the physician and his patients. The doctor who sticks to the principles of reputable practice and is not led into one of the "hog trails" described by Dr. Wittwer at the St. Joseph meeting, will suffer no shrinkage in his bank account and have none of the regrets of the one who wobbles on the edge of unprofessional conduct, hoping his sly excursions into forbidden territory will not be observed.

THE AMERICAN MEDICAL ASSOCIATION

The San Francisco meeting of the American Medical Association was as successful as the most enthusiastic optimist had predicted it would be. The registration somewhat exceeded the highest figure favored by those who enjoy the pastime of forecasting the attendance at these annual gatherings, 2,000 being the limit these clairvoyants would hazard. It was not a bad guess for amateurs in the art of necromancy, but it was the opportunity afforded California Fellows to attend the annual meeting that brought the registration up to 2,300, as about one-half the number was from California.

The scientific sessions were full of interest and were well attended, notwithstanding the lure of the exposition. The public health lectures in the churches attracted large numbers of people, and the influence of the Association toward the improvement of health conditions was generally praised.

In the House of Delegates the report of the Judicial Council made a deep impression on the members, particularly that part dealing with workmen's compensation laws and the part, read in executive session, disciplining two Fellows. In one case charges of grossly advertising in the public press were made and the accused offered no defense in person or by writing, although given ample opportunity to be heard; the decision of the Judicial Council was that the charges had been sustained and that the name of the offender should be dropped from the Fellowship roll. In the second case charges were brought before the Council that "the accused had caused or permitted to appear in a publication with which his name was connected, photographs and an article which violated the Principles of Medical Ethics in that they were self-laudatory and defied the traditions and were contrary to the ideals of the

medical profession. The Council condemned the publication in question as being offensive and in bad taste, but because it was evident from the testimony that the publication complained of was not in this instance intended by the accused to be self-exploiting advertising, the Council accepted the defendant's explanation and apology."

Instances are rapidly accumulating to prove that the old order is passing away and the new has come to stay, that is, the member who persists in violating the precepts and principles of the organization, be he of high or of low degree, will be punished, even with the extreme penalty of expulsion if that seems justified.

In the study of the workmen's compensation laws, referred to above, the Council has given us an exceedingly important document. It should be read carefully by every member, for it is an informing article and sheds a light not obtainable elsewhere on this new concept of the relation between employer and employee when differences arise concerning compensation for injuries sustained in the line of duty, because the physician inevitably forms the third point in the triangular conflict. The Council's painstaking report is the first step of the organization toward the protection of the physician's interest.

A resolution was adopted appealing to the president of the United States and to Congress for the government to investigate patent and proprietary remedies. The resolution was drafted by one of Missouri's delegates and introduced by Dr. McAlester.

The proposition to indorse a national board of medical examiners failed of approval. This board is a voluntary body whose functions were not thoroughly understood by the delegates, and they felt unwilling to pledge the support of the organization under such circumstances.

The Board of Trustees submitted a special report on the work of the Council on Pharmacy and Chemistry, which was adopted. This report is a stirring account of the radical changes in the proprietary medicine evil brought about through the work of the Council. We publish it in this issue.

In the election of officers unusual interest was aroused when it was announced that the Surgeon-General of the U. S. Public Health Service, Rupert E. Blue, M.D., would be nominated. Dr. W. W. Grant of Denver was the other candidate, but General Blue early became the popular choice and easily won the election by a large majority. On another page we present a biographical sketch of General Blue. The other officers elected are: first vice president, Albert Vander Veer, Albany, N. Y.; second vice president, George B. Evans, Dayton, Ohio;

third vice president, Donald Campbell, Butte, Mont.; fourth vice president, Herbert C. Moffitt, San Francisco; secretary, Alexander R. Craig, Chicago; treasurer, William A. Pusey, Chicago; trustees, M. L. Harris, Chicago; W. T. Councilman, Boston; Thomas McDavitt, St. Paul, all reelected. The term of Dr. George Dock of St. Louis as a member of the Council on Medical Education expired this year, and Dr. Robert C. Coffey of Portland, Ore., was elected to fill the vacancy. Dr. M. A. Bliss of St. Louis was elected vice chairman of the Section on Nervous and Mental Diseases, and Dr. F. M. McCallum of Kansas City was elected vice chairman of the Section on Genito-Urinary Diseases.

Detroit was the choice for the 1916 meeting, after running a neck-and-neck race with New York almost to the last ballot. It will be a popular point and should attract an attendance approaching the record held by Boston. One of the inducements is the assurance of Mr. Henry Ford that he will give each member a Ford automobile—in miniature—as a watch charm.

Missouri was well represented at the meeting. Two of the five delegates were prevented from attending on account of illness.

Dr. F. M. McCallum of Kansas City was a delegate from the Section on Genito-Urinary Diseases, which brought our quota up to four. Dr. W. W. Graves of St. Louis was a delegate from the Section on Nervous and Mental Diseases, but did not register in the House of Delegates. Each delegate attended all the sessions of the House and performed his duties faithfully. Dr. Funkhouser was appointed chairman of the committee on reapportionment of the number of delegates from constituent associations, Dr. McAlester was appointed a member of the reference committee on section and section work, and Dr. Goodwin was made chairman of the reference committee on legislation and political action.

On nomination by the Missouri delegates, who were instructed by their state association, Dr. William Porter of Ocean Springs, Miss., formerly of St. Louis, was elected to Affiliate Fellowship. This fellowship is in the nature of an honor, and carries no other privilege than the right to participate in the scientific proceedings. To attain it one must have been a Fellow for fifteen consecutive years, be over 65 years of age and be an honorary member of the county society.

The following Fellows registered from Missouri:

Allison, Nathaniel, St. Louis.
Beeson, John P., Southwest City.
Chenoweth, L. C., Webb City.
Denslow, Frank M., Kansas City.

Dumbauld, Bunn A., Webb City.
 Eldredge, James S., Kansas City.
 Frick, William J., Kansas City.
 Funkhouser, Robert M., St. Louis.
 Geiger, Jacob, St. Joseph.
 Goodwin, E. J., St. Louis.
 Gundelach, C. Armin, St. Louis.
 Hall, C. Lester, Kansas City.
 Hoxie, George Howard, Kansas City.
 Horigan, J. A., Kansas City.
 Jackson, Jabez North, Kansas City.
 Janes, Vincil, Cameron.
 Keehn, G. A., St. Louis.
 Koenig, George W., St. Louis.
 Lewis, Bransford, St. Louis.
 Loeb, Hanau W., St. Louis.
 Lutz, Frank J., St. Louis.
 McAlester, A. W., Jr., Kansas City.
 McCallum, Francis M., Kansas City.
 Neff, Frank C., Kansas City.
 Ragan, Stephen T., Ardmore.
 Ravenel, Mazyck P., Columbia.
 Revell, C. A., Kansas City.
 Robinson, G. Wilse, Kansas City.
 Schlueter, Robert E., St. Louis.
 Shutt, C. H., St. Louis.
 Skinner, Edward T., Kansas City.
 Stadtherr, A. Louis, Reno, Nevada.
 Stauffer, William H., St. Louis.
 Sutton, Richard L., Kansas City.
 Talbott, Hudson, St. Louis.
 Wright, J. B., Trenton.

STUNG AGAIN

Vacations are great. Everybody believes in them, and most employers give their employees a reasonable period of rest once a year without shortening the size of the pay envelope during that period. Even city employees are allowed the annual vacation with pay—that is, all city employees except the city physician. He must engage a substitute at his own expense. At least that is the way one prosperous city in Missouri “permits” its city physician to enjoy a vacation of fourteen days.

DEATH OF DR. WALTER B. DORSETT

Just as we are going to press we receive news of the death of Dr. Walter B. Dorsett of St. Louis, which occurred July 27, at 4 o'clock a. m. This news will be received with feelings of sadness and regret by practically every member of the organization, for he was well known throughout the state and nation not only for his professional attainments, but for his kindly nature and willing and ready disposition to contribute his efforts to the welfare of the Association and assist his fellow practitioners whenever the opportunity afforded. We will publish his biography in the next issue.

THE PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSO- CIATION *

In connection with the celebration of the opening of the Panama Canal, it was fitting that Surgeon-General Rupert Blue of the Public Health Service should be elected to the highest office within the gift of the Association at the San Francisco session. The attention being given to improvement of the public health renders significant the selection at this time of a public health officer. General Blue represents an arm of the federal government which is in reality a part of the medical profession; there is indication, therefore, that the ideals of the profession as voiced by the Association will be advanced. There is indication also that public health work will receive a more active impetus, and that the profession will assume in greater degree its responsibilities in respect to public health work and claim its inheritance in this field—in other words, that preventive medicine will become even a more active function of the Association than it has been in the past.

Born in North Carolina, Dr. Blue was educated at the University of Virginia, and received his medical degree from the University of Maryland in 1892. Immediately thereafter he entered the U. S. Public Health Service as intern, and became assistant surgeon in 1893, passed assistant surgeon in 1897, surgeon in 1909, and surgeon-general in January, 1912. During this time he was stationed at Baltimore, Galveston, Charleston, San Francisco, Portland, Ore., Milwaukee, New York, Norfolk and New Orleans, having been assigned to hospital, quarantine and other public health duty, all of which has fitted him for the high office which he now holds in the government, and which enables him to foresee the great work ahead and the part the medical profession should play in it.

Dr. Blue was sent to Italy by the president when cholera threatened our shores in 1900. In 1905, he was second in command of the measures taken in New Orleans and vicinity to eradicate yellow fever. In 1903, and again in 1907, he was placed in charge of plague-eradication measures in California, and handled a difficult situation with the result not only that the disease was controlled, but also that all interests in the state were harmonized. The last mentioned is perhaps the most important single work he has performed, and during its conduct he advanced and proved the principle that rat proofing is the essential means necessary to prevent plague in urban communities. As a result of the enforcement of rat proofing, he has demonstrated that the eradication of plague is entirely practicable, and, in consequence, that cities may be kept free from the disease.

* From Journal Am. Med. Assn.



SURGEON-GENERAL RUPERT BLUE
President-Elect of the American Medical Association

As director of sanitation of the Jamestown exposition, Dr. Blue had practical experience in the reduction of mosquito-breeding areas to prevent malaria. This work was in line with his interest in tropical diseases, which interest was later responsible for his making a special study of those diseases at the London School of Tropical Medicine, and for his assignment as adviser to the governor of Hawaii for the reduction of mosquito-breeding areas in that territory, with the object of guarding against the introduction of yellow fever and malaria after the opening of the Panama Canal. It was from this duty that he was called to become the chief of his service.

Perhaps the most significant achievement of Dr. Blue's career, however, has been the remarkable development of public health work under his direction, especially as relates to scientific research. Public health education by the federal government is important, but the conduct of investigations along broad lines, and continuously followed, is by all odds the most important function of the federal government in matters affecting the public health. These he has encouraged, as is evidenced by the many lines of new work undertaken in the recent past. Some of this work has been done in cooperation with other branches of the government, and a cordial system of cooperation seems to be one of the means taken now to advance public health work on the part of the government.

In no country, perhaps, is there a larger or better public health organization than in our own; but under present auspices it may be expected that this service will enlarge and become a governmental branch second to none, and fulfil the ideals which have been held by the profession and the American Medical Association for more than a quarter of a century.

OBITUARY

DR. ALFRED PIERONNET

Dr. Alfred Pieronnet of Cape Girardeau, a retired practitioner, died at his home, May 26, 1915, aged 95. Dr. Pieronnet was born in England, but when only 6 weeks old his father came to this country, bringing the young child with him, and settled in Pennsylvania, where he grew to young manhood, and obtained such education as the schools in the district then afforded. His medical education was obtained at a medical college in Philadelphia. In 1864 he moved to Cape Girardeau, where he lived until his death. He was active in all movements for the improvement and development of the community, and earned the admiration, respect and love of the people throughout the southeastern section of the state. He was actively engaged in professional work until ten years ago.

NEWS NOTES

DR. ELIZABETH RUSK of St. Louis was operated on for appendicitis. She is improving.

THE Kansas legislature passed an antifeesplitting bill at the last meeting and the governor has signed it.

THE pure ad. law, passed by the Missouri legislature, became effective in June. Shall it become a dead letter?

PLANS are being completed for the opening of a new hospital at Sedalia to be conducted by the Sisters of Charity.

"TWILIGHT SLEEP" has been abandoned by the St. Louis City Hospital. The treatment was found costly and unsatisfactory.

DR. J. ELLIOTT ROYER of Kansas City, who has been doing work in neurology in Europe for almost two years, is now in the National Hospital for neurologic cases, London. He will probably return to Kansas City in the autumn.

THE members of Greene County Medical Society held a picnic meeting at Doling Park, Springfield, on June 25. This gathering took the place of the annual smoker, which has been the custom just before the summer adjournment. A baseball game between the members of the society was a feature of the meeting.

DR. H. L. REID of Charleston delivered an address on "The Patent Medicine Evil," at a mass meeting held under the auspices of the Sabbath Observance Committee of Charleston recently. Dr. Reid directed especial attention to the prevalence of patent medicine advertisements in religious papers and to the efforts of the American Medical Association to check the evil.

THE supreme court has confirmed the action of the State Board of Health revoking the license of Dr. A. M. Conway of Columbia for ten years on account of writing numerous prescriptions for whisky. He had written 778 prescriptions, and the supreme court holds that each prescription constituted a separate offense. The court also declared the board was within its rights in revoking the doctor's license on that ground.

THE College of Physicians and Surgeons, Medical Department of the University of Southern California, announces the placing of all first and second year teachers on full time, beginning with the 1915 session. They will have no other duties than that of teaching, and will be paid good salaries. This advancement

has necessitated a complete change in the first and second year faculty, and the following have been recently added to the faculty: F. S. Hammett, M.S., professor of physiology, formerly of Harvard; Charles G. McArthur, A.M., professor of biochemistry, formerly of the University of Illinois; Ralph L. Byrnes, M.D., professor of pathology, formerly of the University of Utah. Each of these teachers has been provided with one or more assistants.

DURING April, May and June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Knoll & Co.: Euresol pro Capillis.

Antiseptic Supply Co.: Special Caustic Applicators, 50 per cent.

Fairchild Bros. & Foster: Enzymol.

Eli Lilly & Co.: Syrup Cephaeline, Lilly.

Hoffmann-LaRoche Chemical Works: Papaverine Hydrochloride, Roche. Papaverine Hydrochloride, Roche, Tablets. Papaverine Sulphate, Roche, Ampules.

Hynson, Westcott & Co.: Ouabain Ampules, H. W. & Co.

Merck & Co.: Papaverine Hydrochloride, Merck.

THE Defense Committee reports a recent instance of an attempt by the attorney of a casualty insurance company to compromise a malpractice suit against one of our members. The Defense Committee advised the member not to compromise. We urge our members to exercise considerable caution when they buy protection of this kind. No company should be allowed the privilege of compromising a suit without the consent of the insured, and their attorneys should not urge it. See that your policy protects YOU. In the case referred to above the member did not consult the Defense Committee when the suit was filed because the company's attorney advised against his doing so. The Defense Committee, however, when it learned of the plight in which the member was placed advised with him, and not only succeeded in preventing the compromise, but had the case thrown out on a demurrer.

THE late Mr. George D. Barnard, donor and beneficiary of the Barnard Free Skin and Cancer Hospital of St. Louis, left an estate of \$2,000,000 well invested in first-class business securities. After the annuities to his widow and various institutions amounting to about \$50,000 are paid, the residue income goes to the Barnard Free Skin and Cancer Hospital. After the expiration of the annuities, through the death of the various legatees, this institution will

receive the income from the whole estate. About \$16,000 a year, consisting of small sums to various local institutions, will be a perpetual charge against the estate. The Barnard Free Skin and Cancer Hospital has had up to this time an income of over \$30,000. This, together with that from the Barnard estate, will enable the institution to extend its investigations along much broader lines than it has been possible to pursue in the past.

MEMBERSHIP CHANGES, JULY

NEW MEMBERS

George E. Cecil, Flat River.

CHANGES OF ADDRESSES

Luther M. Callaway, Kansas City, to Pawnee, Okla.

C. H. Diehl, St. Louis, to Buckner, Ill.

N. R. Donnell, Herculaneum, to 3652 Cates Ave., St. Louis.

A. W. Garlitz, St. Louis, to Military Home, Leavenworth, Kan.

Louis P. Habig, St. Louis, to Pearl and St. Louis Sts., Lebanon, Ill.

Walter E. Handley, 1533 Washington Ave., to 223 South St., Springfield.

D. M. Huffman, Crane, to Crank Bldg., Springfield.

P. R. Konzelmann, 2500 S. Jefferson, to 3523a S. Grand Ave., St. Louis.

J. W. Langley, Granby to Peculiar.

H. S. P. Lare, Kansas City, to 2631a S. Kingshighway, St. Louis.

Maggie L. McCrae, Kansas City, to Sterling, Kan.

Clarence A. McGuire, 207 Argyle Bldg., to 638 Lathrop Bldg., Kansas City.

T. A. McLennon, Higginsville to Marshall.

Roy J. Owens, Mill Spring to Leeper.

William D. Petit, St. Louis, to Marfa, Tex.

James A. Peyton, Mountain Grove to Macon.

W. D. Pipkin, Excello to Monroe City.

W. C. Proud, Oregon, to Sixth and Francis St., St. Joseph.

Ernest Sachs, Buckingham Annex, to 97 Arundel Pl., St. Louis.

Frederick C. Simon, Kansas City, to 615 Wall Bldg., St. Louis.

A. S. J. Smith, Dearborn, to 710½ Felix St., St. Joseph.

W. P. Stuckle, Clyde to Conception Junction.

Arnold Traubitz, Neelyville to Vanduser.

C. A. Williams, Clarence, Mo., to Doland, S. D.

Rex Williams, 15th and Locust, to 620 Lathrop Bldg., Kansas City.

RESIGNED, DROPPED OR TRANSFERRED

J. H. Bronaugh, Calhoun.
 S. F. Carpenter, St. Joseph.
 Thomas O. Edgar, Dixon, Ill.
 Marquis A. Gaugh, Burlington Junction.
 J. T. Hanna, Dyer, Okla.
 J. H. McCoy, Beattie, Kan.
 Philip L. Patrick, Ottawa, Kan.
 Jesse C. Ross, Melvin, Iowa.
 W. F. Schmid, St. Joseph.

REINSTATED

R. M. Miller, Belton.

DECEASED

Thomas Doolin, Ash Grove.
 Walter B. Dorsett, St. Louis.
 Thomas H. Shy, Centerville.

MISCELLANY

TREASURER'S REPORT, 1914-1915

Examination of the published minutes of the Annual Meeting at St. Joseph discloses that the Treasurer's Report was omitted. This was due to an oversight in the make-up of THE JOURNAL during the absence of the Editor. We publish the report below as handed in by the Treasurer and audited and pronounced correct by the Judicial Council. The report follows:

GENERAL FUND

RECEIPTS

1914		
May 1.	To balance	\$5,396.48
June 3.	Reprints, etc.....	9.75
	3. Advertising in Journal.	3,415.88
	3. Co. Soc. Assessment....	8,961.00
1915		
April 30.	Interest on daily balance	73.50
		\$17,856.61
	30. To disbursements	\$12,178.39
May 3.	To balance on hand.....	\$5,678.22

DEFENSE FUND

RECEIPTS

1914		
May 1.	To balance	\$1,783.29
May 18.	Transfer from gen. fund	1,500.00
1915		
April 30.	Interest on daily balance	86.85
		\$3,370.14
	30. To disbursements.....	492.06
May 3.	To balance in bank.....	\$2,878.08

THE COMMERCIAL PHYSICIAN *

H. J. Rowe, M.D., Willow Springs, Mo.

The old family doctor of our Grandfather's Day,
 Is now but a memory, he has long since passed away;
 No longer you find him in this day of mad rush.
 This old family friend of the "Bonnie Briar Bush,"
 Whose kindness, sagacity, courage and daring,
 Is so beautifully depicted by Ian McClarin;
 His calling, a profession, not a commercial pursuit,
 His mission as sacred as Hippocrates taught;
 In the light of today his methods were crude,
 But while his opportunities were narrow his vision
 was broad,
 He fulfilled his mission and did well his part
 Not for honor and shekles, but for love of his art.
 He received pay, of course, as every man should,
 For all must be provided with raiment and food,
 But his object in life was to relieve human ill,
 Not gold to amass, his coffers to fill.

Time rings many changes but this fact remains true,
 We but graft on the old in making the new.
 And the present high standard of medical lore
 Is built on the foundation of those gone before.
 And while wonderful progress in the science we boast,
 I very much fear there has something been lost;
 True dignity, tolerance and higher ideals,
 Have been wrecked on the rocks of the traffic and deals.

A scientific Bartlett produced a great pear,
 Its size is colossal, its color most rare;
 It is wonderfully changed, yet, we all must agree,
 That it is only a graft from the old seedling tree;
 And though commercially great and held in high
 favor,
 It has lost most of its sweetness and much of its
 flavor.
 We rejoice at the progress medical science has made,
 We are proud of the men who have come to its aid,
 Who have unselfishly labored, and by means scientific,
 Have proved the cause and found the specific.

The dread disease smallpox, once the scourge of the
 nation,
 Has lost all its horror since they discovered vacci-
 nation;
 Diphtheria, which killed thousands of children each
 year,
 Since we have antitoxin we meet without fear;
 Yellow fever and cholera, which yearly took toll
 Of the flowers of our Southland, is now under control.
 But why name them all, I have only begun
 These great battles fought and victories won.
 But these wonderful conquests as in all battle strife,
 Has cost many a scientist his own precious life.
 In pest camp with microscope he has looked for the
 cause
 Though not himself exempt from Nature's great laws,
 He knew his profession no talisman gave,
 Yet its great chances he took that others might live.

Compared with these heroes how infinitely small
 Is the commercial physician with his roll and his gall,
 Who, forgetting what others have given the world
 free,
 Takes credit not due him and thinks only of his fee.
 Like the great light from the Old World on a quite
 recent date,
 Came to serve his turtle soup at a million a plate;

* Read at the Howell County Medical Society meeting, July 8, 1915.

And in this spirit of commercialism and scramble
for place,
We are losing sight of the profession, the dollars to
chase.

Even the ethics of the practice of the great healing art
Is now sometimes assailed either in whole or in part,
By latter date thinkers and writers of note,
Who have seen eminent doctors unethically make
some one the goat.

They say it is obsolete, out of date, its object all
thwarted,

Like the beautiful roses whose perfume has parted;
That many follow the letter and pretend to be good,
But miss the real spirit of the ethical code.
That we can punish a pretender, who violates the laws
Which are concrete and specific as to section and
clause,

But can violate the spirit in a great many ways,
By the shrug of the shoulder, or damn with faint
praise,

A gesture, a frown, a smile or a wink,
He can advertise unethically without printers' ink.

He is asked, "Don't you think Dr. A. is just fine,
Such a nice fellow, so genial and kind?"
"Yes, indeed," says the pretender, "He is certainly
nice,

Just the man I always go to for friendly advice.
I have known him for years, better than most people
I think,

We are very warm friends—what a pity he drinks."
Having said these nice things in the praise of his
friend—

(Which he trusts will bring money to him in the end),
He states he must hurry along to see Col. Wealth,
Who has been very low but is regaining his health.
True, we have rules for most everything,
From the carpenter who labors to the prima donna
who sings,

But the wisdom of decades fails to reveal
A rule that will hold this slippery, slimy medical eel;
But, because we can think of no law that will bind
him,

Shall we say like the politician, "If you can't lick 'em,
jine 'em"?

Rather let us rise above that and on a higher plane
ride,

Should we make fewer dollars, we'll feel better inside.
We can't all have wealth, and even if we could
'Tis but a span to the tomb and the pocketless shroud.
And when the last wound is dressed and the last
visit made,

Our life work all finished and we're laid in the shade;
When our life's ledger is balanced and all credits
given,

By uninfluenced friends and enemies forgiven,
Then, worth far more than all our wealth left behind,
Is the tribute, "He was honest, true, faithful and
kind."

ADVERTISING BY PHYSICIANS

Following the midwinter conference on public health, legislation and medical education of the American Medical Association, held in Chicago, February 23 and 24, numerous news items and editorial comments appeared in the public press regarding one of the papers presented at the conference. The substance of the newspaper items was that the American Medical Association was considering the revision of its principles of ethics with a view to removing or modifying the restrictions placed on individual physi-

cians as to personal advertising. Some of the reports stated that revision of the principles of ethics would be taken up at once, and that an overwhelming majority of members of the association were in favor of such a change. So far as we know, says *The Journal* of the American Medical Association, there is no intention or indication of any change in the position of the American Medical Association on this question; the reports in the newspapers were due to a misapprehension of the character of the paper in question and the intent of the writer.

The paper was an argument for a better understanding and closer cooperation between the medical profession as an organization and the newspaper publishers as a class. The author did not advocate or discuss the question of personal advertising on the part of physicians; the proposition set forth and defended in the paper and presented to the conference was something entirely different from personal exploitation; it was a plea for closer cooperation between medical organizations and the press for the public good, and not for personal benefit. It suggested that the expert knowledge of the medical profession could be utilized by the public press in two ways; first, by the dissemination through the newspapers of scientific knowledge which would be of value to the public in preventing disease, and second, in placing at the disposal of those newspapers which desired it, the expert knowledge of the medical profession in separating worthy and reputable from dishonest and disreputable institutions which might seek publicity through the newspapers.

Of these two important activities one has already been inaugurated by the American Medical Association, and the other is worthy of serious consideration. Neither of them, however, has the slightest bearing on the question of personal exploitation of physicians through newspaper advertising or by any other means. An honorable physician could not conscientiously advertise for personal business, for the same reason that the honorable minister and lawyer would not advertise. A professional man has no commodity to sell; his only assets are his scientific knowledge and his personal ability; and he who claims to possess greater knowledge or greater skill than his professional associates—whether physicians, preachers or lawyers—is an egotist, or worse, and forfeits the respect of both his professional brethren and his fellow citizens.—Joplin, Mo., *Herald*.

SPECIAL REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY

INTRODUCTION

Ten years ago the Council on Pharmacy and Chemistry of the American Medical Association was created for the purpose of abating or eliminating the evils connected with the exploitation of proprietary medicines. At its regular meeting last February, the Board of Trustees discussed the work of the Council and the completion of the decade of its existence. While it was appreciated that vast good had been accomplished, at the same time it was felt that the material results of the work have been far below what they should have been, considering the effort that had been expended. The reason was evident: the Council had not received the active, hearty support of the profession, individually and collectively, that it should have received. Specifically, the fact that more has not been accomplished is due to the indifference of the medical profession.

Your Trustees concluded that the matter must be definitely brought before you, the representatives of the American Medical Association. The Council on Pharmacy and Chemistry is your Council; the work it has done without pay has been your work, which you authorized and approved. Through it, the efforts of some of the leading members of the profession have been brought to bear on problems that vitally affect public health, morals and well being. The character of the work done has been made known through *The Journal of the American Medical Association*. The physicians of the country should now be asked: Do you wish this work continued? If not, thank the Council for its labors and disband it. If you think it should be continued, then you must give the Council practical and strong support; the fruit of the tree which they have planted and tilled must be more manifest. The Trustees feel that the general body of the medical profession should see to it that this work does bear fruit.

In this belief, the Board passed a resolution to the effect that the Chairman of the Board of Trustees appoint a Committee of three to prepare a supplemental report in the form of an address to the medical profession, on the use of secret and proprietary drugs and on the work of the Council on Pharmacy and Chemistry. This report was to be presented at the next meeting of the House of Delegates for approval, and each member of the House of Delegates was to be requested to sign it if the House approved it. It was also understood that if approved a copy of this address should be sent officially to the presidents and secretaries of the various constituent state associations and component county societies. It is in accordance with this action that the following report has been prepared and is here submitted:

REPORT

THE IDEALS OF THE AMERICAN MEDICAL ASSOCIATION

Medicine exists for the relief of humanity from the suffering entailed by disease. Its votaries believe that by the relief of disease and suffering man will advance to higher levels physically, morally and intellectually. This view, though always held, has become increasingly prominent through the greater possibilities of successful action which the modern knowledge of disease has given. Formerly almost limited to the service of the individual, medicine now seeks by measures looking to the prevention of disease, through the greater extension of hospitals and dispensaries, and through the education of the public in the care of their bodies, to extend its services to the mass of the people. The individual members of the profession are entitled to a fair pecuniary support for the service they render, but no one who is acquainted with the facts can deny that the medical profession as a whole, whether its work be in private practice, in hospital or state service, or in the laboratory, feels its first duty to be that of service to mankind. The association of its members in a body is primarily for the purpose of making this service more effective. This view cannot be too strongly emphasized, for if such is not the basic nature of this Association, then not only the work of the Council on Pharmacy and Chemistry, but most of the other work the Association is doing, has no purpose.

This wider view of the service of medicine has made it necessary for the Association, as a body, to oppose certain evil conditions that have arisen, which could not be successfully resisted by the separate action of the individual. The most important of these evils is the commercial exploitation of the sick for the sake of pecuniary gain—and the most evi-

dent and extended form of this exploitation is to be found in the proprietary medicine business. Here the physician is often made an unconscious dupe and accessory to the exploiter. The best efforts of our Association, costly in both time and money, have been directed to an attempt to correct such abuses. Undoubtedly much has been accomplished, but the practical results do not seem in proportion to the efforts put forth. A brief review of the manner in which the proprietary evil has arisen will be pertinent.

DEVELOPMENT OF THE PROPRIETARY EVIL

First, it is interesting to note how rapid has been the advance in knowledge of disease and how recent the full recognition and application of this knowledge to its prevention and cure. Forty years ago the conditions of medical practice were essentially the same as at the time of Sydenham. We possessed a few great therapeutic agents whose use had been learned empirically, and which were often skilfully employed. Shortly before this period ether and chloroform had been placed in our hands. The anatomic knowledge of disease, which has made possible a closer differentiation of types and a clearer recognition of the changes produced in the body, was relatively further advanced than either functional or etiological knowledge. There was little recognition, save in a few great minds in the profession, of the true nature of disease. Disease was generally regarded as a condition foreign to normal life, as a new action which had come into the individual, and its natural course was not understood. Treatment was largely symptomatic and remedies were sought to combat the symptoms rather than to meet the underlying causes. There is a natural feeling in the human mind that some remedy must exist against every evil. We see this in the numerous laws which are quickly passed to remedy unusual and abnormal conditions in the body politic and we too often see how obscure are the underlying conditions and how inadequate the remedy. Owing to the lack of appreciation of the natural course of disease, faulty empirical methods of treatment had arisen, many of them merely useless, some undoubtedly harmful.

Meanwhile, slowly and by short steps, a mass of knowledge founded on accurate observation of disease and irreconcilable with blind and unreasoning therapy was being accumulated. Homeopathy, which was spreading enormously, also showed the futility of much of the empirical therapeutics, since the sick, save in the case of a few diseases, did about as well under its negative ministrations as under the prevailing methods. A great voice had arisen in America—that of Jacob Bigelow. In 1835 he gave an address of which Oliver Wendell Holmes says: "This remarkable essay has probably had more influence on medical practice in America than any similar brief treatise, we might say than any work ever published in this country." Bigelow saw that the course of disease cannot be quickly curtailed; that some diseases run a definite course and the patients recover spontaneously; others persist to the end and are not influenced by therapeutic measures; and underlying most diseases there is a natural tendency toward recovery. One of the greatest advances was the conception of disease formulated by Virchow, whose definition of disease as "life under altered conditions" may be placed among the greatest of epigrams.

THE NEW CONCEPTION OF DISEASE

The final blow to the old conceptions of disease and to the old empirical therapeutics was given by

the discovery that most diseases are due to the entry into the body of living things which prey on it and produce disturbances in its normal action. The year 1880, which marks the firm establishment of this new conception, is to be regarded as the beginning of one of the great periods of medicine—probably the greatest. What was previously a hypothesis became knowledge. The period was fertile in the discovery of new methods; bacteriology became a new branch of medical science, and in all directions the new knowledge was enormously stimulating. By the necessary association of the experimental study of disease with the determination of the part which the infectious organisms play, experimental methods received a new impetus and were carried to new fields. With the knowledge of the causes, and their mode of action, it became evident that disease could be more easily prevented than cured. Preventive medicine was born.

What was probably most important, the new knowledge had an immense human interest; it became popularized by means of newspapers and magazines, and for the laity as well as for the medical profession disease, for the most part, lost its mystery and became a part of the natural order of things. Since it is evident that only by the intelligent cooperation of the laity, can measures necessary for the prevention of disease be successfully introduced, the medical education of the laity was actively promoted by this Association.

In no direction was the influence of the new knowledge more marked than in pharmacology. Therapeutics had been based on a faulty and uncritical empiricism. It is interesting to look over one of the best known books on therapeutics at this period (Bartholow, edition of 1882, for instance) and compare it with a modern book. It is excellently written, interesting, and contains much that is profitable; but of the physiologic action of drugs, to say nothing of their action in disease, there is very little beyond what is evidently conjecture. It is instructive to see how rationality of treatment is combined with knowledge of any particular disease. There were legions of remedies for those diseases whose nature was unknown, particularly if they were chronic. For epilepsy, melancholia and nervous diseases generally, pretty much everything in the *Pharmacopœia* could with advantage be employed. Certain drugs, as iron, arsenic, mercury and iodine, seemed to be prime favorites in chronic disease. Iron was so great a favorite that thirty-nine preparations were given, each of which was believed to have certain special advantages. The action of iron in producing an increase in red corpuscles was described, and this explained its efficacy in anemic conditions. There was a brave attempt throughout the book to give a rational explanation of the action of drugs and the classification given was based on their supposed action. Where all possibilities of explanation failed, the remedies were classified as "alteratives." The book, of course, was a compend, but here and there the author gives his own observations and experiments; the most evident lack in the author is the critical spirit. There were however, no patent and no proprietary medicines mentioned in the book.

Laboratories for the study of the physiologic action of drugs, which is the basis of scientific therapy, were practically limited to those on the continent of Europe. In some of the few physiologic laboratories in this country experimental studies of the action of drugs were made, but there was no development of pharmacology as a branch of medical science. Gradually the strongest medical schools in this country began to create departments of pharmacology with adequate laboratory facilities and teaching — and productive research began.

LACK OF DEVELOPMENT OF DRUG THERAPY

It would naturally be supposed that this period¹ of great possibilities and promise for the future should have led to a rapid utilization of the new knowledge for the development of scientific drug therapy, but instead of advance there was halting and even retrogression. For at this very period there developed the great curse to American medicine—the blight of the nostrum. The country doctor no longer took with him in his saddle-bags a few reliable drugs with whose actions and limitations he was familiar, but ready-made mixtures about the composition of which he knew little and about the therapeutic actions of which he knew less, for all he knew was what was told him by the manufacturer, who in most cases was a layman, without knowledge of medicine, pharmacy or chemistry.

What were the underlying causes for the development of the proprietary medicine evil in this country? The period of its beginning was that following the Civil War—a period that found the medical profession in this country at a low standard of training. Low-grade medical schools sprang up to meet what was said to be the demand for physicians in the growing western and southern states. In addition to the schools already existing, from 1865 to 1905, no less than 198 medical schools came into being. Many of these had no laboratory equipment, and no facilities for medical training, the instruction consisting in courses of lectures by men who, themselves, were often imperfectly trained. The full course for the M.D. degree took only two years of five, six or seven months each. The course consisted of lectures only and in most schools the lectures of the first year were repeated in the second. While there is no doubt that among the graduates of these schools were men of ability, the average was low. It was impossible that such graduates should fully appreciate the value of scientific knowledge or possess, to any large degree, the critical judgment that would permit them to discriminate between the biased, but plausible, statements of manufacturers and the accurate knowledge obtained by scientific methods of study.

1. While in every age the sick have been directly exploited for gain, this greatly increased in the period we have been discussing. The lowest form of illicit gain in which advantage was taken of the individual stricken with disease, practically the robbing of the wounded on the battlefield, became a successful and favorite pursuit. It was easy to reap a rich harvest by proclaiming to the poor sufferer that a certain remedy, often of mysterious character, would relieve him from all ills. The power of suggestion was utilized to the fullest extent. Symptoms were described in vague terms; simple physiologic conditions were described as symptoms, and it was easy to persuade the sick and even the well that they had the disease which the remedy cured. The newly awakened medical interest of the public was cleverly utilized in the advertisements, sometimes by partially truthful statements of the nature of certain diseases in order to explain the manner in which the supposed remedies would act in alleviating them; often every statement was false. The public undoubtedly appreciated that there were great changes in the treatment of diseases and the large number of individuals who are always suspicious of change were catered to by remedies described as "old and well-tried." The fact that disease was caused by germs led to the advertisement of remedies which destroy germs instantly, whether within or without the body. The cleverness of some of these advertisements is appalling; they are constantly in sight, in the newspapers, on the billboards, in the daily mail and in every way they seek to pierce the armor of common sense.

Against such exploitation the Association has waged vigorous warfare. The fraudulent character both of the remedies and of those exploiting them has been repeatedly shown up in *The Journal of the American Medical Association*, which for a long time waged the conflict single-handed, but at last received the powerful support of the lay press, to the eternal credit of the latter be it said. It must be understood in giving the press credit for this, that such support involved large financial loss from advertisements and some of the trenchant articles exposing medicinal frauds involved them in suits for damages. Now it may be said that most of the great papers of the country have purged their columns of these fraudulent advertisements. The United States Government lent its aid by means of the pure food and drug laws and by refusing to allow its mails to be used for furthering fraud. What has been accomplished in this regard alone is stupendous; it is no longer so easy for the patent medicine vultures to prey directly on the sick.

Nor were the medical journals of the country more adequate to their task of leadership than were the medical colleges. Like the medical schools, the number of medical journals multiplied greatly during the forty-two years following the war; no fewer than 944 new journals were started in this period. Many of these were short lived but many survived; there are in existence now approximately 325 medical journals. Most of these publications were owned by individuals with small capital, receiving small subscription fees and drew their main support from advertisements. The publisher relied on the advertisements of proprietary medicines to such an extent that almost of necessity he became the tool of the manufacturers of these medicines. The most dangerous form of advertising consisted in recommendations by members of the medical profession. These took various forms, one, the favorite, being an article which on the face of it was a scientific contribution to the knowledge of some disease, but which in reality was written to extol some proprietary preparation. Some of these endorsements were undoubtedly honestly given, the judgment of the writer being at fault; others were entirely a matter of barter and sale, some men seeming to make these endorsements a part of their business. At best, all of them were based on uncritical data, and as scientific contributions were valueless.

RESOLUTIONS ACCOMPLISHED LITTLE

Against the exploitation of the medical profession by proprietary interests the Association had long made vigorous protest. The thinking members of the profession recognized the evil, and year after year resolutions were passed by the American Medical Association, calling on the profession for an enlightened stand on the subject, but no practical results were obtained. Discussion was rife, and agitation continued; but neither discussion nor agitation made any impression. Another step was necessary, and that step consisted in creating a body or agency of the Association for the purpose of dealing systematically and intelligently with the evil.

The Council on Pharmacy and Chemistry was the body created. It was the expression of an organized effort on the part of the medical profession of this country to counteract these evil influences. The preliminary plan of the Council was to investigate the composition and claims of the various proprietaries and to determine whether or not the statements made regarding them were true. The results of these investigations were published from time to time and the remedies which conformed to the requirements of honesty—that is, of the fundamental principles as expressed in the rules of the Council—were accepted for inclusion in the book, *New and Nonofficial Remedies*, which is revised annually.

The Council publishes facts concerning preparations which investigation shows to be exploited under false claims as to either composition or therapeutic action, or both. Reliable information has also been given out respecting many of the newer remedies which are not in the *Pharmacopoeia* and yet are non-proprietary. These also are included in *New and Nonofficial Remedies*, and this work has helped to fix the standards for several drugs whose extensive use has prompted their acceptance for the next *Pharmacopoeia*.

By the creation of a Committee on Medical Education, the Council has done much to advance the teaching of pharmacology and therapeutics. A decade ago there were hardly a dozen medical schools that recognized pharmacology as a branch of medical teaching; to-day sixty-seven colleges have whole-time teachers on this practical and important subject. Incidentally, the demand for trained pharmacologists² far exceeds the supply.

2. One of the greatest needs in this field, however, is the establishment of institutes where pharmacologists would have real opportunities and real facilities for the prosecution of

A Committee on Therapeutic Research was created by the Council some three years ago. This Committee, by awards and otherwise, fosters investigations concerning the activity, stability and physiologic action of commonly used nonproprietary drugs. The results of this work have appeared in various published papers and form valuable contributions to medical knowledge. It has thus far resulted in giving our profession actual facts regarding the action of many drugs, proving in some instances that drugs that have been in common use were practically valueless as therapeutic agents.

The Council has also undertaken the simplification of the *materia medica*. One of the serious handicaps to the study of this branch of medicine is the number of official and semi-official drugs, this number being so large that it is impossible for one individual to master even their names. A selection of a limited number of the better known and more valuable drugs has been made and these, with a brief exposition of their physiologic action and therapeutic uses, have been published in a book known as "Useful Drugs."

We call attention to these practical activities of the Council to emphasize the fact that this work is being done, and that the Council is not simply investigating and passing on proprietary medicines; its functions have broadened out from its earlier, almost wholly critical work; it has become decidedly constructive in its efforts, and for this reason, if for no other, should have the hearty cooperation, assistance and support of the profession.

The influence of the Council in the ten years since its creation has been enormous and this influence has extended to Europe, particularly to England and to Germany. It has checked, if not stopped, the successful introduction of the fraudulent or unscientific proprietary mixtures that so long disgraced American medicine. It has diminished the hitherto vast number of valueless synthetics, simple mixtures masquerading as synthetics, and other worthless European products on the American market. As already stated, the importance of pharmacology has been recognized in our medical colleges, partially, at least, through the Council's efforts. As a result, the young men who now enter the medical profession are no longer the easy prey of the unscrupulous, as was formerly the case. The Council has fearlessly shown up the fraudulent and injurious character of many of the nostrums that have been advertised to physicians. It has placed at the service of the profession a vast amount of accurate and scientific information regarding the manufacture and exploitation of drugs, based on experimental evidence which can be repeated and verified. In a word, it is no longer necessary for the practitioner to accept the extravagant statements of a manufacturer or promoter of a drug; he can now know the actual facts.

studies which might lead to the discovery of drugs of value; practically no work of this character has been undertaken in the United States and practically no facilities for such work, involving as it does the combined activities of well-trained chemists and pharmacologists, exist. In some European countries such opportunities have, in a measure, been secured by the cooperation of university or other laboratory workers with aniline dye and other chemical factories; occasionally the results have been in the main satisfactory as in the case of salvarsan. Too often, however, the result has been the exploitation of some semisecret or dangerous or otherwise questionable product with the name of some well-known man connected with it; for example, the pharmacologist Cloetta's name is connected with "Digalen," that of the surgeon Kocher with "Coagulen," and that of the internist Zuelzer with "Hormonal." Most of the attempts to discover new drugs will inevitably result in failure; the medical profession in its whole history has found only a score or so of really great drugs; Ehrlich seems to have had at least 605 failures before approaching his goal. One of the greatest objections to commercialism in this field is that so many of the failures are exploited and capitalized as well as the successes. How few of the almost innumerable drugs which have been introduced in the last two or three decades have survived more than two or three years! During this brief period, however, they were actively exploited and often accomplished their purpose; they were sources of great profit to their owners. It is only from laboratories free from any relation with manufacturers that real advances can be expected.

THE COUNCIL THE PROFESSION'S CREATURE

This Council on Pharmacy and Chemistry you, the medical profession, have created; its work is yours, and you have, passively at least, given it your endorsement and approbation. The malicious libel of the manufacturing interests to the contrary notwithstanding, the Council does not represent, and never has represented, the efforts of a clique, a small portion of the American medical profession. The Council's work is but carrying out the ethical ideals of a united profession. For ten years this work has gone on and the Council has borne the odium, the abuse and the opposition which its activities have created. It has done this without pay, and at a sacrifice of time and energy which might have been used to great personal advantage to the individual members. And yet the results accomplished are far from what they should be. Even to-day our profession is tolerating, and thereby recognizing, so-called "ethical proprietaries" that are as fraudulent as many of the "patent medicines" we so frequently—and justly—condemn and criticize. The remote reason for this state of affairs is inertia of the medical profession; the immediate cause the subserviency of the medical press to the proprietary interests—instead of supporting the Council's work, a large proportion of the medical journals of the country oppose it either passively or actively.

As already stated, the two main factors responsible for the development of the conditions we are discussing have been (1) the large number of inefficient, inadequately equipped medical colleges; and (2) the superabundance of medical journals. The medical college problem has been practically solved; few of the low-grade, commercial institutions remain. The situation with regard to medical journals, however, is but slightly improved; the number is far beyond the legitimate needs of the profession and more than the profession can support, or should be asked to maintain. Not a few of these journals were actually started for the purpose of exploiting the products of certain concerns; a large proportion depended, and still depend, for the greater part of their income, on the receipts from advertising. And the major portion of the advertising space in many of these journals is devoted to promoting nostrums.

To-day we have this anomalous condition: The medical profession, through its authorized agency (the Council), has shown certain medicinal preparations to be fraudulent; the same medical profession, however, is supporting medical journals that are promoting these very preparations and in some instances accepting advertisements which the lay press rejects as fraudulent. The condition is not only anomalous—it is ridiculous. The Council on Pharmacy and Chemistry has presented indisputable evidence, has submitted demonstrable facts, to prove that certain products are frauds on the medical profession and on the public; at the same time medical journals, through their advertising pages, are sharing in the profits that come from the continued exploitation of these very frauds. Let it be emphasized that the nostrum evil, whether we apply the term "nostrum" to "patent medicine" or to so-called "ethical" proprietaries, depends for its life on advertising; cut off its advertising and it will die. Medical journals that lend their pages to the exploitation of medicinal frauds are responsible for one of the greatest curses that afflict the medical profession, and through it the public.

The remedy is in the hands of the physician. The physicians who subscribe for or contribute to a medical journal are, to a certain degree, responsible for what appears in that journal, for without their support it could not exist. It must be remembered that some of our leading journals are owned and published by laymen. Naturally, the interest of these publishers in the medical profession and in scientific medicine is commercial and not professional. Naturally,

too, their point of view is different from that of physicians. Having no knowledge of medicine, these laymen cannot judge of the character of the medicinal preparations they advertise. If their readers, who are supposed to have a knowledge of therapeutics, do not object to the advertising of certain products, it is hardly to be expected that the publishers will do so.

MEDICAL JOURNALS WILL LISTEN

* We repeat: The remedy is in our own hands. If we protest often enough and strongly enough, medical journals will cease advertising these preparations—there is no doubt about this. You will be told that but for the money which these advertisements bring, it would be impossible to publish such and such journals. A poor argument! The medical or other journal which depends for its existence on money received for the promotion of a fraud does not deserve to exist. The elimination of the fraudulent proprietary will probably mean the elimination of a certain number of journals, as the introduction of a higher standard of medical education eliminated nearly one-third of the medical colleges that existed ten years ago.

Possibly we have dwelt a little too much on the dark side of the picture. On the other side the Association has every right to be encouraged by what it has accomplished through the Council on Pharmacy and Chemistry. Among these we may mention the creation and stimulation of similar work in other countries. It has had great influence in the establishment of chairs of pharmacology with connected laboratories in the universities of this country. It has stimulated the teaching of scientific therapeutics. Directly and indirectly it has advanced medical science. It has exerted a wholesome influence on the medical journals, and has effected changes. As a matter of fact, a number of medical journals, aside from all but three of those published by state societies, have shown that it is possible to exist without depending on fraudulent advertisements. Among these might be mentioned the *Southern Medical Journal*, the *Cleveland Medical Journal*, the *Old Dominion Medical Monthly*, *Surgery, Gynecology and Obstetrics*, the *American Journal of Obstetrics*, the *Boston Medical and Surgical Journal* and the *American Journal of Medical Sciences*.

It must be fully understood that this work has for its primary purpose service to mankind; that against its continuance and extension powerful interests have been aroused; that combinations have been formed with almost unlimited funds to oppose it; that law supported by the arguments of the ablest legal talent in the country will be invoked to stop it; that it is not impossible the association may meet great financial loss. On the other hand, the work in itself is right and we must advance in its prosecution supported by the courage which comes from well doing.

With this report the appended resolution is respectfully submitted.

Respectfully submitted for the Board of Trustees.

W. T. COUNCILMAN,
W. W. GRANT,
M. L. HARRIS,

Committee.

Resolved, We, Members of the House of Delegates of the American Medical Association, believe that every effort must be made to do away with the evils which result from the exploitation of the sick for the sake of gain. Earnestly believing that the continued toleration of secret, semisecret, unscientific or untruthfully advertised proprietary medicines is an evil that is inimical to medical progress and to the best interest of the public, we declare ourselves in sympathy with, endorse and by our best efforts will further the work which has been and is being done by the Council on Pharmacy and Chemistry of the American Medical Association in the attempt to eliminate this evil.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
 Webster County Medical Society, Jan. 1, 1915.
 Sullivan County Medical Society, Jan. 2, 1915.
 Cooper County Medical Society, Jan. 16, 1915.
 Camden County Medical Society, Feb. 2, 1915.
 McDonald County Medical Society, Feb. 12, 1915.
 Daviess County Medical Society, Feb. 22, 1915.
 Christian County Medical Society, March 22, 1915.
 Ste. Genevieve County Med. Soc., March 24, 1915.
 Atchison County Medical Society, March 25, 1915.
 Benton County Medical Society, March 26, 1915.
 Schuyler County Medical Society, March 30, 1915.
 De Kalb County Medical Society, April 12, 1915.
 St. Charles County Medical Society, April 14, 1915.
 Barton County Medical Society, April 15, 1915.
 Carroll County Medical Society, April 17, 1915.
 Platte County Medical Society, April 19, 1915.
 Clark County Medical Society, April 19, 1915.
 Audrain County Medical Society, April 21, 1915.
 Putnam County Medical Society, April 24, 1915.
 Franklin County Medical Society, May 6, 1915.
 Ray County Medical Society, May 13, 1915.
 Howell County Medical Society, July 3, 1915.

BENTON COUNTY MEDICAL SOCIETY

The regular meeting of the Benton County Medical Society was held at Warsaw in Dr. Dillon's office, June 30, with Dr. W. G. Jones of Lincoln, president pro tem, in the chair. The president, Dr. J. A. Logan, was made late in arriving by having to go a long distance out of the regular road to get here on account of the high water.

Dr. Jones called the meeting to order at 10:30 a. m. The minutes of the last meeting were read and approved, followed by the transaction of business in the regular order, after which we listened to a very interesting paper by Dr. Dillon on the subject of diagnosis. The paper was very comprehensive, and was followed by a general discussion of the subject.

Dr. Eugene Heibner, a recent graduate, who has been visiting "home folks" before taking up his duties at the German Hospital in Kansas City, was a guest, and gave us a good talk on Dr. Dillon's paper.

Dr. Dillon presented a patient for clinical study, a case of locomotor ataxia of three years' standing, which proved very interesting.

Dr. Logan of Fairfield brought a patient with him for clinical study, a case of hypertrophied liver and engorged heart diagnosed as sclerosis of the liver.

Dr. Jones of Lincoln reported a case of capillary hemorrhage of the lungs.

Dr. Smith reported a case of impaction of the bowels, developing later a persistent hysteria simulating epileptiform convulsions. The patient recovered.

Those present were Drs. E. L. Rhodes and W. G. Jones of Lincoln, Dr. J. A. Logan of Fairfield, Dr. Eugene Heibner of St. Louis, and Drs. Dillon, Savage, Pomeroy and Smith of Warsaw. Dr. D. E. Hooper, dentist, is always an interested and welcome guest.

Dr. Wilson J. Ferguson, our councilor, accompanied by Dr. Guy Titsworth of Sedalia, arrived on the noon train, too late for the society meeting, but, as Dr. Ferguson said, they thought they would run on down, even though late, to show us their desire to

be present, and Dr. Ferguson assured us that he would meet with us at our next meeting in Lincoln.

The next regular meeting will be held in Lincoln in August.

JOHN R. SMITH, M.D., Sec.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met in the circuit court room at Jackson, July 12, with eight members present. In the absence of the president, Dr. Henderson presided.

Program for the evening: Report of surgical cases by Dr. G. B. Schulz as follows: 1. A case of acquired talipes equinus in a young lady of 20 years. 2. A case of lymphatic gland with calcareous deposits. 3. A case of double pyosalpinx. 4. A case of intestinal obstruction with femoral hernia in a man of 55. The history of each case was given and in the last three reports pathologic specimens were presented.

Dr. Vinyard read a paper entitled "Brotherly Love," in which he showed the tricks attempted by some physicians to gain an advantage at the expense of their brother physicians. He closed his excellent paper by describing the ideal physician.

Dr. W. K. Statler of Oak Ridge read a paper on "Pyelitis in Childhood." The doctor gave an outline of the cases, showed how often they go unrecognized by the average physician and described his treatment. He also reported a case of Stokes-Adams syndrome.

Discussion followed the reading of all the papers and the case reports, and a very interesting meeting was held.

A motion was made and carried that Dr. Vinyard's paper be printed in the State Journal. On motion, adjourned to meet in Cape Girardeau August 9, as per schedule.

E. H. G. WILSON, M.D., Sec.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society was due to meet in Liberty, at Dr. Matthews' office, Monday evening, June 28.

The response to the call totaled six (count 'em, 1, 2, 3, 4, 5, 6) members. Present, Drs. Bogart, Matthews, Rowell, Miller, Sevier and Gaines.

The six who attended were well repaid for the effort, by hearing an excellent paper from Dr. Herman E. Pearse of Kansas City on "Deformities Following Fracture of the Wrist and Ankle." The doctor illustrated his work with stereopticon views from skiagraphs made from individual cases.

Dr. Pearse advocated surgical anesthesia in reducing fractures of the wrist and ankle. His lecture was in sharp contrast with the average bungling methods of the past which left the patient in good temper and condition to "sock the setter" with a malpractice suit that would bring a verdict for the plaintiff.

There is no use taking space to give a synopsis of the paper; suffice to say, it was worthy of an audience of 500 physicians. It should have been heard by every general practitioner in Clay County who believes in rendering his patrons the best that is in him.

The next meeting will be held in Excelsior Springs the last Monday evening in July, and there will be a program worth hearing, and the members will be notified as usual. A better attendance is anticipated.

J. J. GAINES, M.D., Sec.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society was called to order in regular session on Wednesday, July 14, in Clinton, by the President, Dr. J. R. Wallis, at 2:30 p. m. Present were Drs. J. R. Wallis, W. H.

Gibbins, S. A. Pogue, D. J. Musick, C. W. Head, J. H. Walton, F. A. Blackmore, R. J. Jennings, E. C. Peelor, J. R. Hampton, N. I. Stebbins and F. M. Douglass.

Dr. C. W. Head read a paper entitled "The Physician." It was replete with good thoughts and suggestions, giving many examples to prove his words.

Dr. Jennings, in discussing the paper, commended the writer and claimed that if physicians were better paid they would equip themselves with the books and instruments necessary to do the work required of them. Dr. Blackmore stated if insurance examinations were more equal in price, and the contract work was made better there could be much more thought given to the outlay for equipment.

On motion by Dr. Gibbins, duly seconded and carried, the paper was ordered published in the State Journal.

Dr. E. C. Peelor reported a case, patient present. A young man 23 years old, had used tobacco and liquors but not to excess, pulse normal at 70, temperature 98, no headache nor local pains, had had rheumatism at 12 years of age, whooping cough three years ago, no venereal diseases, had a deep sighing respiration, suffused countenance, protruding eyes, but no goiter. His father, 55 years old, has had the same trouble. A sister had chorea at 14, has the same cough trouble and insomnia. He came to me about three months ago. Did not sleep good and had stomach trouble. Gave him a bromide with viburnum as a sleep potion and tonic. He asked that patient be examined and diagnosed. Drs. J. H. Walton and F. A. Blackmore were appointed. After getting the history and a thorough examination was made of the patient, it was believed he was a neurotic with a hysteric tendency. Found heart in normal condition. Commended the treatment and advised fresh air, restricted diet and out-door exercise.

The secretary read the letters received from Drs. E. J. Goodwin and C. R. Woodson as to the action of the Council, and Dr. Woodson's promise to meet with the Society on Wednesday, September 8.

On motion to meet at Montrose on Wednesday, August 11, the Society adjourned.

F. M. DOUGLASS, M. D., Secretary.

HOWELL COUNTY MEDICAL SOCIETY

By invitation of our members residing in Willow Springs, the Howell County Medical Society met in this hustling little city, July 8, in our "Mid-Summer Get-Acquainted" meeting.

The meeting was called to order in the parlors of the Horton Hotel at 8 p. m., by the president, Dr. Elliott, and with the following members and visitors present: Drs. Elliott, Shuttee, Cullpepper and Thornburgh, West Plains; Dr. Cunningham, Pomona; Dr. Wallis Smith, Springfield; Drs. Rowe and Davis, Willow Springs.

In the absence of one of our chief essayists, Dr. Smith gave us a short address on gallstone disease, with the report of an interesting case referred to him a short while ago, by Dr. Davis of Willow Springs. This case was that of a lady about 56 years old, who had been suffering with some form of biliary obstruction for some years before Dr. Davis treated her, such as severe pain in right hypochondriac region, jaundice and rapid failure in health. Dr. Davis had advised her to be operated on for some time before she consented, and finally when operation was done at the Springfield hospital the gallbladder was found to be prolapsed and resting in the right iliac region, having been dragged there by the weight of its contents. Five hundred and forty-seven gallstones were removed at this operation and the gallbladder drained, but not anchored to its original mooring. This lady

has made a rapid recovery and is now enjoying good health. Dr. Smith gave it as his opinion that gallstones do not form until after there has been an infection of the gallbladder, and after the stones are formed it is hard to make a positive diagnosis. The subject was further discussed by Drs. Davis, Cullpepper, Shuttee, Elliott and Rowe.

Dr. Rowe read a paper entitled "The Commercial Doctor,"* which was written in rhyme—the first known instance of a medical paper being so written and delivered. It would have been really good poetry had it not been so full of plain, every-day fact that overshadows poetical fancy. He starts out by drawing a picture of the old family doctor, with his honest, open, happy countenance, holding the confidence of his patrons as a sacred trust, and he himself looked up to as counselor and friend. He was loved by those who knew him and honored by even his foes, because he was an honest man. But the commercial doctor of today is a far different man, resorting to any means to filch money from the pockets of his victims and doing violence to our honored code. He is the medical mountebank, who preys on the ills of others, and resorts to any means, that will not land the medical shark in the pen, to separate the unfortunate from his hard-earned cash. It was a very able paper and well written. Dr. Shuttee and others discussed the paper, and on motion, the secretary was asked to forward it to the State Journal for publication.

We were favored by a very able address by Hon. John C. Dyott of Willow Springs on the subject of "Medical Expert Testimony." Mr. Dyott pointed out the various phases of medical expert testimony, and what makes this kind of testimony of value in any given case, or what makes it valueless. He pointed out the powers and limitations of the medical expert witness and showed why he should be absolutely honest in his testimony. His address showed much thought and was well received by the members of the society.

After transacting the routine business of the society, the meeting adjourned to meet at West Plains, Thursday, Sept. 9, 1915.

A. H. THORNBURGH, M.D., Sec.

PLATTE COUNTY MEDICAL SOCIETY

The regular meeting of the Platte County Medical Society was held in Platte City, July 7, with six members present, Dr. L. C. Calvert in the chair. Those present were: Drs. Calvert, Weston and Coffey of Linkville, Herndon of Camden Point, Clark, Redman and Naylor of Platte City.

Dr. Redman read a paper on "Why We Lose So Many Cases of Appendicitis." The trend of the paper showed that we are negligent in our duties to our patients in not imperatively demanding an operation within the first forty-eight hours, or if that is not possible, to wait until the abscess is walled off, then open and drain. Also that we should follow more closely the teachings of surgeons of noted ability and experience.

Dr. G. C. Coffey reported some cases treated with phylacogens, bacterins and serums. Some cases treated by him showed good results and others were negative.

Both papers were freely discussed and many points of interest and value shown.

Dr. S. L. Durham of Dearborn having made application for membership and the Board of Censors' reporting favorably, he was elected as a member of our society.

A. S. HERNDON, M.D., Sec.

* See department on Miscellany, this issue.

RANDOLPH COUNTY MEDICAL SOCIETY

Randolph County Medical Society met in regular session in the Commercial Club rooms at Moberly, at 2 p. m., July 7.

Dr. William Engelbach of St. Louis held a medical clinic which occupied the entire afternoon and evening sessions and twenty-four patients were examined. Dr. Engelbach gave very interesting and instructive talks on each case and Dr. Tainter of St. Charles gave a short talk on surgical treatment of Graves' disease.

All the physicians of the adjoining counties were invited to the meeting, and the following visitors were present: Drs. J. B. Fleet, New Franklin; C. P. Megee, Fayette; M. C. McMurray, Paris; H. C. Payne, M. E. Leusley, Madison; J. D. McAdams, C. B. Lawrence, W. C. Alexander, Clifton Hill; C. H. Dixon, Holliday; W. T. Bell, Stoutsville; R. S. Battersby, Shelbina; J. F. Welch, J. D. Brum-mall, G. W. Hawkins, Salisbury; A. R. McComas, Sturgeon; J. W. Shropshire, Keytesville; William Engelbach, St. Louis; F. J. Tainter, St. Charles; Ralph McReynolds, Kirksville; J. G. Moore, Mexico; M. S. White, New Cambria; R. P. Price, Triplett; J. R. Mabee, A. Aldridge, H. Tatum, M. B. Austin, Brunswick; Henry Gray, Prairie Hill; J. W. Hawkins, Glasgow; W. O. Hawkinson, Roanoke; David Nowlin, E. W. Tinsley, Montgomery City; E. San-bourne Smith, Macon; W. R. Terrill, Renick and R. C. Campbell, Higbee.

Members of the Society present were: Drs. S. P. Towles, O. K. McGee, W. K. McGee, L. A. Bazan, J. C. Lyter, E. W. Shrader, G. O. Cuppidge, O. O. Ash, C. K. Dutton, M. R. Noland, F. O. Blatner, E. R. Hickerson, C. B. Clapp, Jesse Maddox, R. H. Ferguson, R. D. Streeter, Thos. Fleming, Moberly; D. A. Barnhardt, Huntsville; G. M. Nichols, Higbee.

A six o'clock dinner was served at Forest Park after which the evening session was held from 7:30 to 11 p. m. The Society adjourned to meet the first Wednesday in August, 1915.

E. W. SHRADER, M.D., Secretary.

REYNOLDS COUNTY MEDICAL SOCIETY

The Reynolds County Medical Society met in regular session the afternoon of July 18 at Centerville. The president, Dr. A. F. Bugg, appointed Dr. T. T. O'Dell to act as secretary during the remainder of the unexpired term of Dr. T. H. Shy, deceased. The minutes of the previous meeting were read and approved.

Dr. Bugg reported a case of senile gangrene of the foot in a man 66 years of age, and asked for the opinion of the members as to the advisability of amputation. It was deemed inadvisable unless the patient should be transferred to a hospital because of the low vitality of the patient.

Dr. Moffitt presented a case of a boy 12 years of age with reflex disturbance seemingly of gastric origin.

The secretary having been instructed to write a brief obituary of Dr. Thomas H. Shy, to be included in the minutes and also published in *THE JOURNAL* of the State Association, submitted the following:

"Dr. Thomas H. Shy died at his home in Centerville, May 28, 1915, at 1 o'clock, p. m. The cause of death was given as heart failure. Dr. Shy was one of the best known and highly respected citizens of Reynolds county, and was a physician and surgeon second to none in the county. He was born Jan. 19, 1882, at Edge Hill and was educated in the public schools of Reynolds county and at the State Normal at Cape Girardeau. He taught school a number of

years, after which he entered the medical department of the Louisville University, from which he graduated with honors. He was married June 6, 1909, to Miss Mattie Reed, and of this union one son, Burnell Reed Shy, was born two years ago. He was a member of the Missionary Baptist Church, Masonic, Independent Order of Odd Fellows, Yeomen and Woodmen lodges, a member of the Reynolds County Medical Society, having served as secretary for a number of years, and the Missouri State Medical Association. The funeral services were conducted by the Masons and the remains laid to rest in the family cemetery near Black, Sunday, May 30. The funeral procession was the largest ever witnessed in this part of the county."

The society adjourned to meet at Centerville, Friday, August 24.

T. T. O'DELL, M.D., Secretary.

SCHUYER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society held its regular meeting at Lancaster, Thursday, June 10, at 2 p. m., with the president, Dr. W. A. Potter, in the chair. The following members were present: Drs. B. B. Potter, W. A. Potter, W. F. Justice, J. H. Keller and J. B. Bridges. The minutes of the last two meetings were read and approved.

Dr. Justice read a paper on "Narcosis." It was an excellent paper and was discussed by all members present. The other members on the program were absent or unprepared.

Dr. J. H. Keller, delegate to the state meeting at St. Joseph, reported, giving details of many of the proceedings, and expressed satisfaction and delight with his trip.

The next meeting will be held in Lancaster, July 20, with Drs. J. H. Keller, W. H. Zieber, H. E. Gerwig and J. A. Drake to read papers.

J. B. BRIDGES, M.D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY

The Webster County Medical Society held its annual picnic at Bell Spring, July 21. After a bountiful feast the meeting was called to order by Dr. C. A. Good, the president. Drs. Good, Rabenau, Highfill, Wells and Bruce responded to roll call.

The afternoon was spent in talks and discussions by the doctors present.

It was voted to meet in Fordland the third Wednesday in September. The meeting adjourned at 4 p. m.

JOHN R. BRUCE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES**NEW AND NONOFFICIAL REMEDIES**

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

CAUSTIC APPLICATORS, SPECIAL (SILVER NITRATE, 50 PER CENT.).—Wooden sticks, 12 inches long, tipped with a mixture of silver nitrate 50 per cent. and potassium nitrate 50 per cent. Antiseptic Supply Co., New York (*Jour. A. M. A.*, July 3, 1915, p. 29).

ENZYMOL.—An extract of the fresh animal stomach containing the gastric enzyme in active standardized form and having an acidity due to combined hydrochloric acid. Enzymol is stated to be useful as an application to old sores, ulcers and slow healing wounds. It is said to correct offensive odors, to exert a solvent action on pus, sloughing and necrotic tissue and to impart a healing stimulus. For the solution of necrotic bone and in some abscesses hydrochloric acid is added to the diluted extract (*Jour. A. M. A.*, July 24, 1915, p. 333).

PROPAGANDA FOR REFORM

ANTOX.—"Dr." W. J. Garbutt, Milwaukee, Wis., sells Antox. It is said to cure every contagious disease if taken at the onset. Garbutt issues two sets of advertising, one for physicians and one for the public. The A. M. A. Chemical Laboratory found that essentially each 100 c.c. contained approximately 0.92 gm. ammonium chlorid, 0.12 gm. hydrogen chlorid (equivalent to 1.2 c.c. of diluted hydrochloric acid, U. S. P.), 0.35 gm. hydrogen sulphite equivalent to 6 c.c. of sulphurous acid, U. S. P.), and 18.5 gm. of invert sugar (*Jour. A. M. A.*, July 3, 1915, p. 45).

GRAY'S GLYCERINE TONIC.—The Council on Pharmacy and Chemistry reports that Gray's Glycerine Tonic Comp. (Purdue Frederick Company, N. Y.) is not eligible for admission to New and Nonofficial Remedies because its composition is secret; because grossly unwarranted therapeutic claims are made for it; because the name of this pharmaceutical mixture does not indicate its chief constituent, gentian, and because its use is unscientific and a detriment to rational medicine. From the statements made in regard to its composition it appears that besides the alcohol, gentian is the only active drug present. Nevertheless the "tonic" is said to be good for no less than thirty-two diseases, ranging from amenorrhea to whooping cough (*Jour. A. M. A.*, July 10, 1915, p. 189).

LIQUID PETROLATUM.—Liquid petrolatum is sold under proprietary names such as Bakuirol, Interol, Med-O-Lin, Muthol, Semprolin, Whiteruss, Nujol and Stanolax. Nujol is put up by the Standard Oil Co. of New Jersey and Stanolax by the Standard Oil Co. of Indiana. Probably before long each of the other Standard Oil companies will have its own name for liquid petrolatum—that is, if physicians will tolerate it. There is no excuse whatever for special brands of liquid petrolatum, so far as the medical profession and the public are concerned. But it is otherwise with those who supply the product. More can be charged for a product sold under a trade marked name and claims can be made which could not be made when the product is sold under its proper title, liquid petrolatum (*Jour. A. M. A.*, July 10, 1915, p. 175).

TONGALINE AND PONCA COMPOUND.—The Council on Pharmacy and Chemistry reports that Tongaline, Tongaline Tablets, Tongaline and Lithia Tablets, Tongaline and Quinine Tablets and Ponca Compound Tablets, products of the Mellier Drug Company, St. Louis, are ineligible for New and Nonofficial Remedies because their composition is indefinite and semi-secret; because grossly exaggerated therapeutic claims are made for them; because their names are misleading, and because their composition is unscientific and irrational. Tongaline is essentially a sodium salicylate mixture. Its name is derived from one of the asserted constituents, "tonga," an inert, long discarded mixture of barks and herbs said to be gathered and prepared by Fiji Islanders. In addition, Tongaline is stated to contain blue cohosh, colchicum and pilocarpin. The amounts of the ingredients are not

now declared. Neither is the composition of the Tongaline and Quinine and Tongaline and Lithia Tablets made known. Ponca Compound is a "female weakness" remedy in tablet form. The name suggests that "Ponca" is a medicinal substance and at one time "Ext. Ponca" was named as an ingredient. Now the tablets are said to contain extract of mitchella repens, senecin, helonin, caulophyllin and viburnin. Not only are no quantities given, but the character of senecin, helonin, caulophyllin and viburnin is not made known (*Jour. A. M. A.*, July 17, 1915, p. 269.)

HOROWITZ-BEEBE CANCER TREATMENT.—Newspapers are giving much attention to a new "serum"—Autolysin—for the treatment of inoperable cancer. This had its origin in the publication by S. P. Beebe, formerly professor of experimental therapeutics at Cornell Medical School of a system of treatment by "Alexander Horowitz, Ph.D., an Austrian biologist and chemist" and its trial at the General Memorial Hospital. The composition of the preparation is not disclosed as to quantities, but it is said to be made from: *Menyanthes trifoliata*, *Melilotus officinalis*, *Mentha crispa*, *Brassica alba*, *Anemone hepatica*, *Viola tricolor*, *anthesis*, *fructus colocynthidis*, *lignum quassiae*, *Urtica dioica*, *radix rhei* and *hedge hyssop*. One critic of the matter has remarked that apparently the only ingredient which has been overlooked in the preparation of the new remedy was a rabbit's foot (*Jour. A. M. A.*, July 24, 1915, p. 336).

ECHINACEA.—This is one of the drugs which the Council on Pharmacy and Chemistry has found valueless. Confirming this, the chemists of a pharmaceutical house report that they were unable to detect the presence of any physiologically active substance in the drug (*Jour. A. M. A.*, July 24, 1915, p. 342).

O'NEIL'S MALT WHISKY:

MOUNTAIN VALLEY SPRING WATER:

STAFFORD MINERAL SPRINGS WATER:

SA-YO MINT JUJUBES:

HOUCHENS' "FAMILY PHYSICIAN":

DR. MARTEL'S FEMALE PILLS:

QUICKSTEP, FRYE'S REMEDY:

GRAY'S GLYCERINE TONIC.—A "Notice of Judgment" has been issued by the Federal authorities regarding each of the proprietary preparations named. Each was found to be misbranded under the Shurley amendment to the federal Food and Drugs Act which declares it illegal to make false and unwarranted therapeutic claims for medicines (*Jour. A. M. A.*, July 24, 1915, p. 350).

M. I. S. T. No. 2.—M. I. S. T. (Murray's Infallible System Tonic) No. 2 is sold as a cure for cancer, locomotor ataxia, paralysis, diabetes, suppressed and profuse menstruation and a host of other conditions. Analysis in the A. M. A. Chemical Laboratory demonstrated that M. I. S. T. No. 2 consists of capsules which contain aloes and blue mass as their essential constituents (*Jour. A. M. A.*, July 31, 1915, p. 446).

CALDWELL'S SYRUP PEPSIN.—Some of the claims made for this "patent medicine" are "Positive Relief for Constipation," "Dispels Colds, Headache, Fevers and all ills caused from Bad Digestion, Foul Stomach, Torpid Liver and Sluggish Bowels." While the name and the claims suggest the presence of pepsin, L. F. Kebler, the government chemist, reported that this nostrum is an aqueous alcoholic solution containing laxatives flavored with oil of peppermint and devoid of any appreciable amounts of pepsin. Regarding the laxative constituents the A. M. A. Chemical Laboratory reports that a senna preparation is the essential laxative constituent (*Jour. A. M. A.*, July 31, 1915, p. 447).

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EDITOR

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COMMITTEE } S. P. CHILD, M.D.
 } M. A. BLISS, M.D.

ORIGINAL ARTICLES

CONGENITAL HEART LESIONS IN INFANCY AND CHILDHOOD*

EDWIN HENRY SCHORER, M.D.
KANSAS CITY, MO.

It might be asked why this subject, to which little new information has been added in years, should receive space in a medical journal. To me it seems justifiable because most text-books give only confusing information on congenital heart lesions, because heart lesions frequently are not diagnosed until some febrile disease exists or has existed and so a congenital lesion is not differentiated from an acquired one, and because it seems necessary to emphasize to the profession the occurrence of congenital heart lesions even if they have to be considered from a point of view other than the usual one to understand better their occurrence.

To understand better the causes of the various locations of congenital heart lesions and to diagnose them, this presentation is classified as follows:

1. Developmental causes of anatomical heart defects.
2. Relative frequency of occurrence of the various anomalies.
3. Diagnosis of the particular anomalies.
4. Symptoms and signs of the various anomalies.
5. Prognosis in the various defects.

DEVELOPMENTAL CAUSES OF ANATOMICAL HEART DEFECTS

The Primitive Heart.—Too frequently in discussions, considerations and diagnosis of congenital defects, only what we call the fetal circulation is considered, and far too often patent foramen ovale is diagnosed. For a real study we must go farther back, namely, to the primitive heart.

* Read before the Jackson County Medical Society, March 2, 1915.

The primitive heart in man makes its appearance as two parallel tubes, one on either side in the splanchnic mesoblast in the region of the head. As the mesoblast forms the foregut, these two tubes become approximated, fuse into one, with Y's on either end. This single tube is to develop into the heart by dilating, twisting and the outgrowth of septa and valves. The dilations and twistings are shown in most of the text-books on anatomy and histology.

Development of the Ventricular Portion.—The interior of the ventricle is divided into right and left portions by a muscular septum developing upwards and backwards. The septum, however, remains incomplete superiorly until later, when the dividing wall is completed by (a) a downward extension of the outgrowth dividing the aorta into the ascending aorta and the pulmonary artery, and (b) an extension from the endocardial outgrowth dividing the auriculoventricular orifices into the mitral and tricuspid orifices.

Development of Auricles and Auriculoventricular Orifices.—The auricular canal becomes so shifted that it lies over the position of the ventricular septum and endocardial outgrowths divide the orifice into the two auriculoventricular orifices. These outgrowths meet a septum developing downward and forward dividing the auricles into right and left. Before complete closure occurs the septum separates at the upper and back portions and forms the foramen ovale. Then another septum starts at the upper and back portions, which after the fourth month of fetal life acts as a valve, allowing blood to flow only from the right to the left auricles.

Development of the Ascending Aorta and the Pulmonary Artery.—The aorta is divided into two portions by a septum developing from thickenings of the endocardial lining of the aorta. This septum continues down to the intraventricular septum.

The Fetal Circulation.—The fetal circulation differs from the adult circulation because the materials needed for the nutrition of the fetus must come from the placenta. The chief dif-

ferences are a ductus venosus, which carries the principal portion of the blood in the umbilical vein directly to the inferior vena cava. This enriched and oxygenated blood in the inferior vena cava on reaching the right auricle is deflected by the eustachian valve to the left auricle to be distributed from the left ventricle principally to the head. The returning blood from the head enters the superior vena cava, is carried through the right auricle to the right ventricle and then to the pulmonary artery. However, as the lungs are not functioning, the principal part of the blood is carried by the ductus arteriosus to the arch of the aorta.

ANOMALIES

From a study of the primitive heart and fetal circulation the following congenital anomalies occur:

1. The two tubes may not fuse, and so there may be two separate or partially separated portions of the heart.

2. There may be failure of division of the ventricle (*a*) by retardation or absence of the development of the septum; (*b*) by failure of downward extension of the aortic septum; or (*c*) by failure of extension of the auriculoventricular septum.

3. There may be failure in the formation of auriculoventricular orifices and of its division into right and left portions.

4. There may be (*a*) failure of the separation of the auricles, (*b*) failure to form a foramen ovale, or (*c*) failure of closure of the foramen ovale.

5. There may be failure of division of the aorta into ascending aorta and pulmonary artery.

6. There may be failure in development of or failure in obliteration of the ductus venosus.

7. There may be absence of or defective eustachian valve.

8. There may be absence of or persistent ductus arteriosus.

That developmental defects of the heart are responsible for deaths *in utero* or soon after birth and are at times the cause of defective children must be evident. The principal of these defects are absence of ductus venosus (6), absence of or improper development of the foramen ovale (4), absence of or defective eustachian valve (7), and absence of the ductus arteriosus (8).

It is to be noted that the congenital lesions depend on maldevelopment in the primitive heart and in the heart and vessels giving the fetal circulation. The defects in the septa, orifices and valves are in nearly all cases due to

underdevelopment or overdevelopment, but dilatation may prevent closure of an orifice by a normally developed septum or may by way of compensation require the patency of the foramen ovale or of the ductus arteriosus.

FREQUENCY OF OCCURRENCE

The frequency of the occurrence of the various lesions as tabulated by Holt from 242 autopsies is as follows:

	No. Cases	No. of Cases in Which It Was the Only Lesion
Defect in the ventricular septum.....	149	5
Defect in the auricular septum, or patent foramen ovale	126	9
Pulmonic stenosis or atresia.....	108	6
Patent ductus arteriosus.....	68	3
Abnormalities in the origin of the great vessels	45	0
Pulmonic insufficiency	17	0
Tricuspid insufficiency	6	0
Mitral stenosis or atresia.....	6	0
Tricuspid stenosis, or atresia.....	3	0
Mitral insufficiency	1	0
Aortic insufficiency	1	0
Aortic stenosis or atresia.....	6	0
Transposition of the heart.....	2	0
Ectocardia	1	0

It will be noted that most of the lesions are on the right side of the heart, and in a great majority of the cases more than one defect exists.

DIAGNOSIS

The diagnosis of the existence of a congenital heart lesion should be possible in all cases, but unfortunately often the heart of the infant is not examined and not infrequently is a heart murmur due to congenital defects diagnosed as one due to acquired defects. There are certain symptoms and signs that are of importance in detecting and diagnosing specifically a congenital lesion. In all cases, however, unless the diagnosis is made very early in life, acquired defects must be absolutely eliminated except at autopsy.

Practically all important (and therefore patent foramen ovale is excluded) congenital heart lesions are associated with a systolic murmur, enlargement of the heart to the right, clubbing of the fingers and toes if the child lives long enough, cyanosis (this may be absent, or when present may not be associated with a congenital heart lesion) and polycythemia when there is cyanosis.

The diagnosis of the specific lesions is more difficult. Many of the clinical descriptions in journals and text-books are defective, probably principally because of failure to distinguish between the existence in the same patient of single and several congenital lesions. It is possible to foretell what the symptoms and signs of a particular lesion are, but when there are combinations of defects, absolute diagnosis is not always possible. All that is attempted here

is to give the findings in the single lesions and more common combinations.

SYMPTOMS AND SIGNS

Murmurs.—The determination of the existence of a heart murmur is usually easy, but to determine its time and character in many cases is difficult. Almost all murmurs due to congenital heart defects are systolic, and from good examination it should be possible to determine where the stenosis or insufficiency exists. Transmission of the murmur to the larger vessels of the neck is usually regarded as being a sign of stenosis of the aorta, but as the left side of the heart is seldom involved in congenital heart lesions such a murmur is usually associated with a patent ductus arteriosus. The continuous or "humming top" murmur is diagnostic of patent ductus arteriosus.

Thrill.—A thrill at the apex is usually heard in pulmonary stenosis and atresia.

Enlargement of the heart to the right usually occurs if the child lives long enough. Patent ductus arteriosus and patent foramen ovale in themselves require no enlargement of the heart.

Cyanosis is probably always a sign diagnostic of pulmonic stenosis and atresia and accompanied by polycythemia.

PROGNOSIS

While without doubt many stillbirths are due to defects in the heart and circulation, and while infants do die early in life because of congenital heart lesions, still the prognosis in children born alive is good in practically all but children having pulmonary stenosis and atresia. The general prognosis in the different lesions is as follows:

Patent foramen ovale usually has little or no effect and in many cases is not diagnosed.

Deficient intraventricular septum is not incompatible with life.

Patent ductus arteriosus generally offers a good prognosis.

Pulmonary stenosis and atresia usually terminate fatally, and unless there is the compensating defect of a deficient intraventricular septum or of a patent ductus arteriosus, death occurs very early in life. Even when compensating lesions exist, death usually occurs before the tenth year of life, and the child suffers much agony and pain.

In conclusion, I wish again to emphasize that the patent foramen ovale is not the important or even frequent congenital heart lesion, and that the diagnosis of congenital heart lesions is important immediately and later on when acquired defects may occur and are to be differentiated.

1010 Rialto Building.

RENAL TUBERCULOSIS*

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Statistics given by the pathologist differ from those of the surgeon as to the frequency with which tuberculosis is found to have affected both kidneys. Observations at necropsy indicate it to be from 50 to 65 per cent. bilateral. Dickenson found in 95 cases, 47 bilateral; Palet in 205 cases found 99 bilateral; Halle and Motz in 131 cases found 89 bilateral. Bevan refers to 12,700 necropsies at Kiel, and among the cases of renal tuberculosis 62 per cent. were bilateral. But remember that the pathologist makes his findings post mortem, or after the patient has succumbed to the disease.

The surgeon, by recent clinical methods, has made it possible to study the disease on the living subject, and has given us a different view as to whether it is more often bilateral than unilateral. Certainly it is of great importance to know whether one or both kidneys be involved. And if one kidney alone, which kidney; if both be involved, to what degree of destruction it has progressed. Surgeons have proved that early tuberculosis affects but one kidney, and, as the disease advances, it is not rare to find both affected, but in different degrees.

In many cases of uremia, anuria or acute suppression, following surgical operations on one kidney, the other is found tuberculous in from 25 to 30 per cent., and the destruction of the second kidney is the primary cause of death. Such cases are among those reported by the pathologist, but observations made on the operating table and by clinical evidence show it to be unilateral in the early stages, remaining so for some time. Israel found over 90 per cent. of cases unilateral; Facklin found 91 per cent.; Kummel found 88 per cent.; Kroelin reports 92 per cent. In the last report of Kroelin and Israel they found over 95 per cent. to be unilateral. These statistics were based upon the examination of the urine, drawn repeatedly from the remaining kidney, following nephrectomy, and upon the permanency of cure with entire absence of any evidence of infection.

Renal tuberculosis may be either a primary or secondary affection. Gujon and Guiteras think it to be always secondary to tuberculosis elsewhere in the body, but there are cases reported where the kidney seems to be the only organ that is tubercular. Be it either primary or secondary to a tubercular process in other parts of the body, it affects but one kidney at first in a very large number of cases. That renal tuberculosis is frequent, is shown by the elder

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

Senn, who reported that, in one of every eighteen cases of consumption, the genito-urinary tract is involved, while Kuster makes the percentage still higher, one in ten. This surely is enough to put every physician and surgeon on the alert, and make him realize the necessity of an early recognition of the condition.

There are several ways in which this infection occurs: by continuity through the blood, through the lymphatics, and some believe it to occur by ascending from the bladder. Formerly it was taught that tuberculosis of the kidney always begins in the bladder, prostate or epididymis, extending up the ureters to the kidney; but Kummel, Baumgarten, von Bruns and others have maintained that it occurs first in the kidney; and this seems to be the accepted view at present. Tuberculosis of the bladder and ureters occurs in only about 10 to 20 per cent. of cases and is always secondary. Giani has demonstrated that in extensive tuberculosis of the bladder, following injection through the urethra, in no instance and under no circumstances did the infection ascend to the kidney, even after one and a half years' duration. While on the other hand tubercular infection starting in the kidney infects the ureter and bladder.

Scheide says that the principal mode of infection is through the blood. Monroe of Glasgow thinks it to be *always* embolic or hematogenous. Adami and Nicholls tell us that it is *usually* hematogenous, but that occasionally it attacks the kidney by extension from adjacent structures. Bridge and also Wilson of Jefferson Medical College state that it is the spread of the disease as found in the sheath of tendons, joints, glands and bone, and reaches the kidney through the blood. The affection, according to Adami and Nicholls, manifests itself in two forms—the acute miliary tuberculosis and local caseating or suppurative degeneration of the organ. The acute miliary form is a part of the general systemic tuberculosis, always secondary and is only occasionally a surgical manifestation. It is sometimes characterized by a number of miliary tubercles scattered over the surface and just beneath the capsule, frequently adhering to it, and at other times located within the substance of the kidney, and not to be detected. In the chronic local or caseating variety, the parenchyma is usually the first affected. Small grayish or yellowish nodules or tubercles appear, often disseminated throughout the kidney. The smaller nodules begin breaking down—coalescing—forming tubercular abscesses of various sizes throughout the kidney. However, parenchyma is not always the first affected. Eichhorst has pointed out that the caseating type often begins in the papillae of the organ, extending more and more deeply into the medullary structure, finally giving rise to caseation and puru-

lent destruction of the renal cortex. If the renal cortex is actively involved, the kidney will become enlarged.

Renal tuberculosis is generally found in the young adult, the common age being between 20 and 30. Walker, in 373 cases, found the average to be 27 years, although cases have been reported as young as 3 years and as old as 70 years.

The symptoms vary with the form and course of the disease. In the acute miliary type there may be no symptoms to make the physician suspect tuberculosis of the kidney, all pointing to the systemic affection. In the caseating form there may be only constitutional symptoms and no local ones, or the signs and symptoms present may be referred to other organs. If only constitutional symptoms exist, the patient complains of malaise, dyspnea, anorexia, nervousness, irritability, loss of weight and strength, disturbance of sleep, tiring easily and never feeling well. Upon examination the patient is found to be anemic, cyanotic, with afternoon temperature, abdominal tenderness, tenderness over costovertebral angle and dull aching over the kidney.

There may be local signs and symptoms and very few that are constitutional. The local symptoms are few, but very pronounced, occurring in the genito-urinary tract. That which first attracts the attention of the patient is frequent micturition both day and night. There is tenderness and burning, dull aching pain and fullness in the loin. At times there may be a slight hemorrhage. These symptoms gradually grow worse. Then, as in tuberculosis elsewhere, we have at times a remission of symptoms which is one of the most characteristic signs of renal tuberculosis. In some cases the symptoms are referred to the bladder. And there is no doubt that many times the bladder has been irrigated with all sorts of drugs when the real trouble was in the kidney in some stage of tuberculosis. The earliest clinical feature may consist of an early polyuria or pollakiuria. This frequent urination may occur long before the presence of pus, blood, albumin, casts or tubercle bacilli, the desire to urinate at short intervals occurring especially at night. Hemorrhage is not a characteristic symptom of tuberculosis of the kidney, occurring in only about 50 per cent. of cases. When it does appear it comes suddenly, disappearing in the same way. It is thoroughly mixed with the urine and may be present before the appearance of pus, but occasionally, when the apices of the calices have ulcerated, there may be an abundant amount of blood, appearing in small clots. Pyuria depends upon whether or not the tuberculous process involves the renal calices or pelvis in such a position that the pus can make its way into the bladder and appear in the urine unobstructed. Pus appears

in varying amounts, at times very slight, again abundant. This is probably due to pockets emptying themselves into the calices or pelvis of the kidney. Remember that pain is not a common symptom. Of all the renal affections outside of tumors, tuberculosis is the least characterized by pain, as sometimes the condition progresses until nothing but a sac remains, without giving the patient any disturbance. If the ureter becomes blocked by pus or blood-clots, then there will be pain, severe at times, resembling renal stone colic, and an intense lumbar pain radiating to the bladder, with tenderness confined to the region of the kidney in the costovertebral angle.

In making a diagnosis one should always ascertain whether one or both kidneys are involved and if only one, which one. If both are infected, to what extent; whether other parts of the genito-urinary tract are involved, and what is the functional capability of each kidney. All this may be determined by a cystoscopic examination, together with ureteral catheterization. The condition of the bladder as regards oversensitiveness, vesical spasm and contraction, or an extension of the disease; the position, size and appearance of ureteral orifices, whether congested, with slight inflammation, ulcerated or long drawn out; the presence or absence of urine, the color and flow, all of which may be determined by cystoscopy, are of vast importance in making a diagnosis of renal tuberculosis. Ureteral catheterization should always be done when suspected urine is seen flowing from the ureteral meatus, whether from one or both. A prejudice seems to exist in the minds of some against the use of the ureteral catheter on the side of the supposedly healthy kidney, there being danger of infection; yet but few instances have been reported and we believe it to have been due to careless technic on the part of the operator. It is true that at times on account of vesicle irritability and contraction cystoscopy is difficult, and ureteral catheterization impossible, but this is found in the late cases. When possible, ureteral catheterization should be done because it is the best means we have of collecting the urine from the kidneys separately in order that it may be thoroughly examined for the tubercular bacillus, and for estimating the functional capabilities of each kidney. We believe the functional tests and methods used to find the relative excretory activity of each kidney are often of value in renal tuberculosis. Such drugs as indocarmine and phenolsulphonephthalein are important factors in determining which kidney secretes normally and which kidney is affected. To show the importance of finding the functional capacity of the kidneys, Watson and Cunningham report 362 operations, where the tests were not used, with a mortality of 35 per cent. A second report of 292 opera-

tions, with functional methods, show only 7 per cent. mortality; another report of 201 operations, Albarron-Ropin, 5.8 per cent. Certainly this difference in percentage and others justifies such procedure.

We believe that renal tuberculosis never heals, when once it lays siege and lodges in the kidney. It is clear that the disease, left to itself, must invariably prove fatal. Delay means that there is danger of extension along the ureter to the bladder, then in time to the other kidney. When it reaches the bladder the patient will be in a state of miserable existence. Some say wait and treat the disease by palliative measures, but no one disputes that the proportion of cures by such means is a very small one. What is gained by delay? The cases best suited for climatic and palliative treatment are also best suited for surgical procedure. Many times following surgical treatment the tuberculous process in other parts of the body, especially the genito-urinary tract, have been greatly benefited and eventually cured. Renal tuberculosis can best be treated by a nephrectomy, and the sooner this is done the better for the patient.

Argyle Building.

KIDNEY TUBERCULOSIS: WITH SPECIAL REFERENCE TO SOME INOPERABLE CASES*

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During the past few years many monographs have been written on kidney tuberculosis statistics have been compiled, symptoms, diagnosis and treatment outlined, and all the literature thoroughly reviewed on this subject. Since opinion differs but little as to the management of the most frequent type of cases of kidney tuberculosis, viz., the apparently unilateral infections, it seemed of more interest to report some unusual features of this malady as observed in some recent cases.

Braasch¹ reports an unusual number of cases (212 patients operated on), the majority of which give a clear history of urinary tuberculosis for only a few months or a few years.

Pilcher² reports a case of urinary tuberculosis of twenty-two years' standing, the patient being in fair health most of that time; one kidney finally was removed, and patient remained in good health.

The above case is mentioned because there seems to be a widespread belief that kidney tuberculosis is a rapidly developing disease, and

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

1. Braasch: *Interstate Med. Jour.*, 1912, xix, 263.

2. Pilcher: *Amer. Jour. Surg.*, 1912, lvi, 292.

that it has little or no tendency toward healing without surgical interference. That this is true in the majority of cases the writer is willing to admit; but in the opinion that there is a smaller percentage of cases of importance to recognize which show the ability to deal with the condition themselves, I am supported by Murphy,³ who says: "If patients in the early stage of tuberculosis of the kidney are put under good hygienic and properly administered tuberculin treatment, so there can be a complete repair of the disease, and for an indefinite period of time, they may become perfectly well. There is no question about that, as it has been demonstrated repeatedly in our experience."

While it would be difficult or impossible to prove that all the tubercular lesions in a kidney were healed, we know that nature effectually seals the focus by obliterating the ureter and by the resulting atrophy of the kidney.

According to Stoerck, it is a very common thing to find healed tubercular lesions of the kidney; but these are not usually extensive lesions. The same authority claims to be able to demonstrate tubercular lesions in the supposed healthy kidney, post mortem, in practically every case of supposed unilateral kidney tuberculosis. He further states that this fact should not be held as a contraindication for removal of the clinically diseased kidney, because the early lesions usually heal readily if the more advanced foci can be eliminated.

On account of some very unusual features, I wish to report in detail three cases.

The principal case which will be delineated in this paper is that of a patient on whom a definite diagnosis of kidney tuberculosis was made in 1895, tubercle bacilli demonstrated in the urine, and who has been leading a very active life, and in fairly good health, at least since 1906 with only one active kidney and that kidney tubercular.

CASE 1.—F. H., teacher, man aged 33, married six years, came to me Dec. 26, 1906, for slight urethral irritation, giving the following history:

Father died at the age of 68 years following a severe grip and tuberculosis of throat lasting two years. Mother living and well. Has lost two sisters, adults, one with tuberculosis of throat and the other with tuberculosis of the throat and acute tubercular meningitis. One brother living, very strong and healthy.

Patient's habits always good, does not use alcohol and smokes only occasionally. Never has suffered from venereal disease. Never had diphtheria, scarlet fever or typhoid, but probably had measles, whooping-cough and mumps as a child.

Had fairly good health and grew rapidly while in high school. Was well until in his senior year (1895) at Ann Arbor, when he developed, after a hard year's work and no exercise, severe stomach trouble, and after treatment from others came under the care of Dr. Victor C. Vaughan, who made a diagnosis of kidney tuberculosis, demonstrating the bacilli in the urine. At that time patient had no bladder

irritation, but complained of his stomach and had very severe pain in his back, but does not remember which side. Dr. Vaughan gave him his nuclein treatment hypodermically, going as high as 90 drops at an injection. These treatments were followed by very severe reactions, but were kept up from June to February, when he was pronounced free from the kidney infection.

Patient remained apparently well until 1902, when he developed tuberculosis of right lung, the bacilli being demonstrated in his sputum, started West with temperature of 104 and had a pulmonary hemorrhage on the train. For fourteen months he remained in Colorado Springs under the care of the late Dr. Solly. Patient ceased to have fever and gained 10 pounds in weight, and cavity in right apex healed. During this time a son was born, lived nine months in perfect health, and died within four days, of what was diagnosed "masked typhoid."

Patient returned to Illinois and then to St. Louis.

Physical Examination.—Rather robust, well-nourished patient, heart normal, liver slightly large, increased breath sounds in both apices. External genitals normal; prostate, left lobe slightly larger than right, but not nodular or tender. Two drops of clear mucus expressed. Urine very cloudy, containing much pus, some red blood corpuscles and many tubercle bacilli, as demonstrated by staining and later by guinea-pig inoculation. Cystoscopy showed a few small ulcers near right ureter and middle of trigone. Right ureter catheter passed readily to kidney pelvis, and urine thick with pus and containing acid-fast bacilli in every field was secured. No left ureter opening could be seen, although the ureteric ridge was almost normal.

During the next few months the patient was cystoscoped by myself, Dr. Bransford Lewis, Professor Karo, Dr. Lund and others to the number of about fifteen times, using different cystoscopes and on several occasions injecting indigo-carmin, but always with the same result, namely, no visible left ureter opening, and all the dye coming from the right side. It was thought that a small dimple or scar could be seen on the left ridge of the trigone, but the smallest filiform would not engage in it, and no fluid or color could be seen coming from it, although it was literally watched for hours. Here, then, we had the unusual occurrence of a patient with only one functioning kidney and that one markedly tubercular.

During the next two years the kidney was injected now and then with iodoform emulsion and the pus became somewhat less and the tubercle bacilli less numerous until he had an attack of malaria (plasmodia demonstrated in blood), after which a number of abscesses formed in the right kidney and ruptured into the kidney pelvis with a great flow of pus containing staphylococci and tubercle bacilli. On two or three occasions the patient became markedly uremic, with high fever, loss of consciousness and almost total suppression of urine for many hours.

During this time the late Dr. Crandall was called in consultation and started the patient on tuberculin, which was kept up regularly for a year or more, and the patient has used it himself irregularly up to the present time.

During these nine years this patient has been more or less under the writer's observation, and has led a very active life as a college professor, beside taking active part in public affairs. He now has a healthy child 6 years old. The tubercle bacilli disappear from the urine for months at a time and can then

3. Murphy: Surgical Clinics, 1913.

be demonstrated again. His weight twenty years ago was 125 pounds; on leaving Colorado it was 165 and is now 145 pounds. He sleeps outdoors in St. Louis the whole year and reads with interest the reports of kidney transplantation from one animal to another.

This case is not reported as a cure, but as a remarkable example of resistance against unusual odds, having been under observation for twenty years since the diagnosis of urinary tuberculosis was made and nine years since the writer demonstrated that he had but one functioning kidney, and that kidney was in an advanced tubercular condition. It is probable that the left kidney was the first to become infected and was destroyed by the obliterating process in the ureter.

CASE 2.—Woman, aged 22 years, referred on account of bladder irritation, and cystoscopy showed ulcerated bladder, especially about right ureteral orifice. Catheterization proved a tubercular right kidney with clear urine from left. Right nephrectomy was advised but refused. Patient returned home, but came six weeks later for the operation. Cystoscopy now demonstrated some pus and tubercle bacilli coming from left kidney and operation was not advised.

The patient lived for about three years, and I have always thought, in the light of Stoerck's teaching, that if the older focus in the right kidney had been removed, the patient might have overcome the newer infection in the left side.

CASE 3.—L. R., aged 42, married; complained of urinary frequency for four years. Bladder capacity about 1 ounce. White pyogenic membrane over much of the trigone. Left ureter in normal position, was catheterized and normal urine secured. The right ureteral orifice was found drawn far up toward the fundus, was catheterized and some pus and tubercle bacilli demonstrated. Later guinea-pig inoculation proved the urine to be tubercular. For various reasons operation was postponed and in the meantime treatment instituted especially for the bladder, consisting of irrigations of silver nitrate 1 to 10,000, argyrol and gomenol injections, and injection of iodoform emulsion into kidney pelvis. Now bladder capacity has been increased from 1 to 8 ounces, and while the functional ability of the right kidney is low, the pus and tubercle bacilli have disappeared from the urine entirely.

This patient has not been confined to bed during the years he has been under my observation, since Jan. 11, 1911.

We have had a number of nephrectomies in unilateral tuberculosis with apparent cures; but it has been the purpose of this paper, as stated in the beginning, to avoid reporting the cases of the usual type in order to bring out the facts which have not received so much notice.

1. Tuberculosis of the kidney may become quiescent and limited in activity in certain cases, just as it does in other tissues.

2. A very mild tubercular infection in one kidney is no bar to the removal of a badly infected mate.

3. A great deal of good can be done by the use of tuberculin in selected cases.

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DISCUSSION ON PAPERS BY BURFORD AND HENDERSON

DR. J. I. BYRNE, St. Joseph: It seems to me that the thing of paramount importance in tuberculosis of the kidney is to point out to the general practitioner the line of symptoms that will indicate to him that his patient has renal tuberculosis. The laboratory man and the genito-urinary specialist can diagnose the case with comparative ease after examinations, but unfortunately the case is not usually so referred until systemic involvement is so great as to contraindicate treatment that would result in the cure of the patient. Given a case of persistent irritable bladder, of frequent diurnal and nocturnal urination, which does not respond to treatment, patient suffering a general systemic decline, the blood pressure below normal (and this is the case in nearly every case), pus or blood in the urine—these are conditions which can be found by the general practitioner at the cross-roads station, and he can handle them. If this condition persists, he has reason to suspect renal tuberculosis, and the patient should be referred to the specialist or surgeon. After the diagnosis has been made there is, no doubt, some reason for confusion in the minds of many as to the proper method of procedure. With such men as Murphy suggesting the tuberculin-hygienic treatment, it is no wonder that cases are permitted to go on and on until they have a general systemic tuberculosis which is past the possibility of a cure. When the case is diagnosed early, within reasonable bounds, the treatment should be surgical from the outset; it should be radically surgical to the extent of the removal of the affected kidney, provided the other kidney does not show a considerable involvement. The first case reported by Dr. Burford was one of the strongest arguments that has been advanced for early operation in kidney tuberculosis. I think it very probable that had Dr. Vaughan removed that left kidney twenty years ago this long story of suffering on the part of the patient would never have been written. The probabilities are that the man would have gone through life a well man.

DR. B. A. POORMAN, Kansas City: It has occurred to me that possibly the kidney which is spoken of as having primary tubercular infection may have been infected in this way: The tubercle bacilli injected into a rabbit or guinea-pig may not grow, but if we pinch some gland the tubercle bacilli may grow many times more powerful than in one which has no lesion of this nature. Is it not true that perhaps we have a tuberculosis secondary to some irritation in the kidney? A case has gone through many hands diagnosed tuberculosis of the kidney; a young man twenty years ago was operated on and the kidney drained. He went about for a few months passing urine through the penis, but still had a sinus through the side. When he consulted me he was passing all urine through a sinus in the right side. I sent him to a genito-urinary surgeon, who did a ureteral catheterization. He reported no ureter on the left and on the right the ureter was obstructed and kidney tuberculous. I accepted that diagnosis, but under protest. I thought there was more trouble there than a tuberculous kidney. The patient passed to another clinic. The general surgeon there was not satisfied with the diagnosis and took a Roentgen-ray picture, which revealed some stones in that kidney. His right kidney was removed and he is now passing all urine through the penis. I have thought many times in regard to these cases, which go on year after year if we went farther than just to accept tuberculosis as the cause of the trouble we should cure many cases which now escape us.

DR. N. P. WOOD, Independence: The two main points in these papers and in the discussion are diagnosis and treatment. One gentleman has spoken for the benefit of the general practitioner with a view to teaching him how to diagnose these cases. Now, that is very kind of the gentleman, but I want to insist on this point, that the general practitioner and the internist should be the best diagnosticians in the country, because nine out of ten of all these abdominal surgical cases and these tuberculous kidneys and some of these other conditions come first into the hands of the general practitioner, the family physician, and he should have the ability—he has the ability—and ought to be entirely able to find out through chemical analysis and the microscope whether or not the patient has tuberculous kidney. If that is found it is about time to pass him on to the genito-urinary surgeon and let the latter find out whether it is unilateral or bilateral. Many of these cases are surgical, and I consider it the imperative duty of internists to be the best diagnosticians found, and not to allow these cases to go on and on, but to discover them when they are unilateral; indeed, before any tubercle bacilli are found in the urine at all. If it is unilateral we internists know what should be done. In the case of my patients, I say to them: "Let us get that kidney out; let us not take any more chances with the other kidney."

DR. C. E. BURFORD, St. Louis, closing: I did not read the paper as laying down any new methods of treatment or as the usual procedure that should be followed in the treatment of cases. The paper was a report of some very unusual features found in these cases. I know that in reading the literature we find no cases of cure other than those caused by surgical interference. It has been only a short time since I heard a paper in St. Louis, in which it was said that there was not a case reported in medical literature where a kidney had recovered without surgical procedure. I report this case because it is unusual. I believe, as the other men do, that the usual treatment should be surgical and that it should be undertaken while the condition is still unilateral.

I think every general practitioner should be able to diagnose urinary tuberculosis. There are two points to be borne in mind. In the first place, the voided urine should never be examined for tubercle bacilli. In nearly every case of voided urine in the female you will find smegma bacilli, and I have tried for a good many years, but have never been able to find by any staining method a means to differentiate these bacilli. I have tried decolorizing with alcohol for different lengths of time, but it has never been reliable and I believe the only way is the guinea-pig, which would be rather an inconvenient test for many. It is the case also with the male, that the voided urine is likely to be contaminated with smegma bacilli, though I think that in the male if the external genitalia have been properly washed and other precautions taken it is pretty safe to take the voided urine. However, I would say that we should insist upon no examination of urine for tubercle bacilli other than that drawn by catheter. It is important not to be mistaken, not to mix the smegma bacilli with the tubercle bacilli. The other point is that the first thing the patient complains of in nearly every case is bladder irritability and also lessened capacity of the bladder. The capacity seems to decrease as soon as the bladder becomes irritable, and these are the first things that will be noticed by the general practitioner.

TREATMENT OF CONGENITAL CLUB-FOOT

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It is not the idea of this paper to take up in detail the treatment of club-foot, but merely to show that it can be successfully corrected, and to give the essential features of the treatment. Nor will any attempt be made to give at length various theories of its causation. The facts herein set forth are those learned during the care of between thirty-five and forty children having congenital club-foot. None of these children had acquired deformity, and acquired deformities are not considered in this paper.

In presenting this to the society, I hope to stir the profession to the realization that such things can be done, and the earlier they are done by a competent man the better it is for the child. It would seem that all doctors should know the above facts, but from the number of children with misshapen or neglected or poorly treated feet, many of whom are told they must wait until a certain age to be corrected or that they can not be corrected at all, is astonishing. These patients do not all come from the country; some have been from this and other cities, and several of them quite recently.

Congenital club-foot is the name given to the various types of deformed feet found in children at birth. There are four kinds, classed according to the position in which the foot is held, namely, (1) talipes equinus, in which the tendo achillis is shortened, the heel thus being up and the toes down; (2) talipes calcaneus, the opposite of the preceding, the foot being in dorsiflexion, usually to so great an extent that the dorsum of the foot is easily brought into contact with the front of the leg; (3) talipes varus, the foot being turned inward, the inner border up, the outer down, the plantar surface back and the dorsum anterior, the toes pointing internally; and (4) talipes valgus, which is the opposite of talipes varus, but which is never so marked a deformity. Included in the foregoing groups, there are, of course, varying grades, from slight to very great malposition. There are four compound types of classes three and four: talipes equinovarus, talipes equinovalgus, talipes calcaneovarus, talipes calcaneovalgus, the last three being quite uncommon.

Etiology.—Several theories have been advanced, but no real reason has ever been found. The most common idea is that the feet are held in the deformed posture by intrauterine pressure; refuting this, however, are the reports of cases found in extrauterine gestation. It is believed that the foot becomes twisted and is then held thus by the lack of liquor amnii. Volkman claims to have seen pressure spots on the back of one foot, but no one else has

ever seen such a thing. If the above is the cause, why the great preponderance of talipes equinovarus, and the infrequency of talipes calcaneus, when according to a number of plates of normal fetuses in normal posture the feet are held in marked dorsiflexion. Furthermore, from questioning the mothers of some of these children, it has been learned that the liquor amnii instead of having been deficient was in great quantity.

Another has tried to explain the condition by saying that the contracture of the muscles was due to some disease of the nerve supply, but no evidence of any such disease has been discovered.

Some think it due to amniotic adhesions, and such is possibly true in certain cases, for intra-uterine amputations caused by these adhesions at times accompany club-foot. In one of the pictures to be shown tonight the boy lacks a toe and a finger, with the second finger having a decided constriction around it.

Developmental error in the embryo itself very likely has much to do in some instances, in others the parents of the child are related.

There are a number of cases in which the affliction seems to be hereditary and several in one family or children in several generations have had the trouble. In this series there are included two white and also two colored brothers.

In considering the times of ossification of the tarsal bones, the fact struck me that since the calcis, astragalus and cuboid centers appear at 6, 7 and 9 months respectively, and remembering that the internal muscles are stronger, then given a predisposing factor, you have 80 per cent. or more of club-foot explained.

It is interesting to note from statistics that 65 per cent. occur in boys and 35 per cent. in girls; both feet in 43 per cent., the right in 31 per cent., and the left in 26 per cent. At least 80 per cent. are of the equinovarus type. Club-foot constitutes 10 per cent. of all congenital deformities.

In the remainder of this paper the term club-foot is taken to mean the most common variety, and the discussion of the treatment will be confined to it alone.

In talipes equinovarus, briefly, we have shortened tendo achillis, posterior and anterior tibials and plantar fascia. In the typical cases the toes point inward, the dorsum of the foot is anterior, and the plantar surface posterior, with the inner border of the foot much shortened and directly up. The bones on the inner border are compressed, with the result that they become smaller, while the outer bones become larger; all lose their normal contour. When the child begins to walk, the weight is borne on the outer border and the foot, which is forced into worse position, a large, thick,

tough bursa being formed just below the external malleolus on the calcis, cuboid and astragalus to protect these bones. The child acquires knock knees to enable one foot to pass the other; even then some children walk with a wheel-like motion, lifting one set of toes over the other as each foot advances.

The treatment very naturally falls into operative and non-operative. The operative treatment includes the so-called bloodless method and the open method; the non-operative consists in gradual correction without anesthesia. Reports in the literature show a remarkable success in the treatment of this condition if the measures are properly carried out. The great number of failures, however, is apparent to any orthopedic surgeon, and in fact to many in general practice; but right here let it be said these cases more often than any other are due to the lack of persistence on the part of the patient, for at times it seems impossible to make parents understand the malady is one that can't be cured without much work over a long period of time, accompanied with a great deal of patience. There is nothing more discouraging than to get a foot properly corrected and then have the patient quit coming because he has decided that he is well, but later to return with a relapsed foot.

Non-operative correction can be accomplished with little pain to the child at any time during the treatment, but I wish to emphasize the importance of beginning on these cases at once, for the older the child gets the harder the task becomes. When a few days old these babies can be put into a light plaster which they seem not to notice, but will kick vigorously in spite of the added weight. The procedure is as follows: Use a narrow bandage of sheet cotton as padding and wind it on the foot by beginning on the inner side, going across the bottom and over the dorsum toward the starting point; continue up the leg, which should be flexed to a right angle with the thigh, and cover about one half of the thigh. The foot should then be held in a position as nearly toward correction of the varus as is possible without causing too much pain, and the two-inch plaster bandage is applied in the same direction as the cotton, reaching from the end of the big toe to well above the knee; during the entire time of putting on the cast and until it hardens, the foot must be held in the desired position. When finished, the cast should be tight against the internal border of the foot, but there should be room at the outer side to allow for swelling and also to give the member a chance to go farther in the desired direction. Care must be taken that the toes are of good color before the child is sent home. It must be seen the next day and if the circulation is poor or the swelling too great, the cast must be split. On feet not very

resistant, the cast is changed each week until fully overcorrected; then once in two or three weeks, until the foot remains thus without being held. At this time many of these cases may be relieved of retentive apparatus and regular massage and manipulation instituted. The mother should do this each time the child is nursed. More stubborn cases take several months, the casts being changed about once in two weeks. Easy cases can be cured in a few weeks, by possibly three or four casts. The inversion of the foot is finished first, because the tendo achillis gives a good fulcrum from which to work, and is very easily and at times almost imperceptibly stretched in the later casts. A good thing to retain correction is a celluloid splint made from a cast of the leg and buckled on in two pieces, an anterior and a posterior; sometimes the posterior piece with straps at calf, instep and base of toes works very well. This can be removed for massage and is easily replaced. All casts and apparatus must be snugly and securely fitted and fastened on, or the child kicks them off. Bad cases must have some retentive apparatus until the patients walk; walking in proper position then helps to complete the cure.

In children nearly a year old, on up to two or two and half years, with more fixed deformities, it is necessary to give an anesthetic. The plantar fascia is cut subcutaneously and the varus corrected, then the tendo achillis is divided likewise and the equinus obliterated. At times it is best to leave the achillis until later. The foot must be worked with and twisted until it remains pretty straight with little holding. Much bruising is the usual thing, and the feet must be more carefully watched than in other cases. The casts are applied as described above until complete overcorrection is obtained. The next cast put on should have a much thickened bottom, with the external part three or four times as thick as the inner; this gives a decided upward lift to the outer border of the foot, since the child is now started walking. When a few of these casts are worn, wide-toed lace shoes are fitted and the outer edge of the sole raised about one-fourth inch. Sometimes it is necessary to use a simple brace without an ankle joint.

In the case of one patient 3 years old, who to my mind was too resistant for this manipulative treatment, the feet had to be stretched and pulled for nearly an hour before correction was made. To make plain the necessity for extreme care in watching the feet, I will tell you what happened to this child. The feet swelled terribly and were exceedingly painful; the cast should have been cut early that night. As this was not done till the next morning, the toes had become cold and blue and necrosis had set in on the outer side of one foot. By con-

tinuous hot saline bath we were able to save most of the foot. The fourth and fifth toes with the metacarpals sloughed off. It was months before corrective treatment could be resumed and removal of bone was finally necessary to effect a correction. No less a person than Lorenz lost an entire foot in one of his patients. The reason for citing such a thing is to show that the application of casts to club-feet should not be lightly undertaken, for slight mistakes bring serious results.

In the last class of cases are included those from two and one-half or three years up, who have fixed and resistant deformity. The tendons and fascia are so shortened and the bones so distorted that the best way is to make an incision parallel to the external border of the foot and over the upper part of the calcaneocuboid articulation. The tissues are retracted and a wedge taken out of the calcis, cuboid and astragalus sufficiently large to permit the varus deformity to be overcome; next the tendo achillis is divided and the foot brought to about normal position. Dressings and plenty of sheet cotton are put on and the plaster cast applied as in other cases.

The first cast is changed in two weeks. A whiff of gas permits the foot being forced into overcorrection before the new cast is put on. The reason for waiting two weeks to finish correction is because I have found there is much less likelihood of getting swollen feet, necessitating the removal of the first casts. A great deal more force can be used the second time with little danger of pressure sores. The third casts put on usually complete the overcorrection.

Later casts and braces are the same as previously described. Most of these children, however, wear nothing but the shoes with raised soles on the outer edge.

The conclusions reached are as follows: (1) Club-feet should be corrected at once, then anesthetics and operation are unnecessary. (2) Older babies need tenotomies before proper correction can be done. (3) Bruising of a resistant foot should be avoided, and even if the child is young, less damage is done by the knife. (4) In older children with badly deformed feet tenotomies alone should not be attempted. The removal at once of a wedge of bone will save the patient much time and pain. (5) Any club-foot can be corrected, but it is very important that the responsible parties be made to understand that they have to do their share and that it will usually take a long time. (6) The best form of appliance to keep club feet in position is plaster of Paris; muscle atrophy is negligible.

Florissant and College Avenues.

SUPPURATIONS OF THE KIDNEY*

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Suppurative inflammations of the kidney may involve the pelvis or the renal parenchyma or both together or consecutively; and as pyelitis, pyonephrosis and even perinephritis are merely terms intended to designate the particular part of the organ involved, all being identical etiologically, I shall make no effort to separate them in this discussion, but the subject will be treated in its broader aspect as an inflammation of the kidney.

Renal suppuration is due to the invasion of the kidney or its pelvis by pathogenic bacteria, which gain access to the organ chiefly through the blood stream, the lymphatic channels and the urinary tract. Most frequently, perhaps, this form of nephritis starts in the pelvis of the kidney as a pyelitis, in which event it is usually of urogenous origin and may extend, sooner or later, to the interstitial tissue or substance of the organ. It not infrequently happens that the infection starts in the kidney parenchyma as the result of infectious emboli or traumatism or even obstruction of the tubules by concretions; and, in either event, both the kidney and its pelvis may ultimately be involved, and it is scarcely possible to separate the two conditions in diagnosis. As before mentioned, the inflammatory process is always of microbic origin, and unless the number of bacteria is very great or the virulence of the organism intense, other contributory factors are necessary to occasion the attack. Urinary stasis is doubtless the most frequent predisposing or contributory factor in the production of renal infections, and Tyson boldly asserts that retained decomposed urine is the most frequent medium of invasion by bacteria.

This may be occasioned by a number of different pathological conditions. Stricture of the urethra, enlarged prostate and stone in the bladder are fruitful sources of urinary block. Retention is frequently produced by ureteral stone and stricture following ulceration of the ureter. The presence of stones in the kidney pelvis may also obstruct the urinary outflow, and a chronic cystitis accompanied by an incompetent ureteral orifice will permit the upward development of an infection through the ureter or through the lymph channels in and without its walls.

It is possible, too, in case of floating kidney in which the ureter becomes twisted or obstructed, so that the vital resistance of the pelvis is impaired, that infection through the blood may ensue. Constipation and pregnancy are also predisposing factors as the urinary outflow

is often obstructed by their pressure upon the ureter. In case of pregnancy, the obstruction is almost always in the right ureter, due to the inclination of the gravid uterus to the right side.

Traumatic agencies, such as blows, kicks and penetrating wounds in the neighborhood of the kidney may also cause renal infection. It is easy to perceive how the presence of renal calculi, by damaging or eroding the pelvic wall, may prepare the way for infection, thus acting as a direct cause of pyelitis.

Renal suppuration may be produced by a great variety of organisms, but the common colon bacillus as a causal agent undoubtedly ranks first. Some authorities contend that it is responsible for 50 per cent. of the cases observed. The streptococcus, staphylococcus, pneumococcus, bacillus typhosus, and, in fact, any pyogenic organism gaining access to the weakened kidney may occasion the disease. Aside from penetrating wounds, the chief channels through which infection reaches the kidney are three: infection through the blood, which is usually spoken of as hematogenous or descending infection; that through the urinary tract is described as the urogenous or ascending variety; and that through the lymphatics or by direct transmission from the intestines or some neighboring structure.

Suppuration of the kidney from direct blood infection may follow in the wake of many of the acute diseases, or after local and seemingly insignificant infections, like furunculosis or tonsillar abscess. Intestinal inflammation, and particularly that of infancy and childhood, is a not infrequent source of infection with the colon bacillus. Indeed secondary pyelitis is much more common than the primary form, and being a complication or result of some other disease, it often attracts but little clinical attention.

As the result of obstruction along the urinary tract we often have developed a hydronephrosis, which later becomes a pyonephrosis as the result of the damaging effect of residual urine.

The morbid anatomy and pathology of suppurative nephritis vary somewhat with the character and virulence of the infective organism and the particular part of the organ involved. In simple catarrhal inflammation of the pelvic lining, the mucous membrane is reddened, swollen and covered with an abundant secretion, which contains varying amounts of pus corpuscles and epithelial cells. In severe cases, which are seen almost solely as a complication of a more extensive affection of the urinary tract, such as pyelocystitis, we have a purulent, ulcerative inflammation, which may even assume a diphtheroid character.

Hematogenous pyelitis, as it is sometimes observed after acute infections, can hardly be

* Read before the Henry County Medical Society, June 15, 1915.

said to have a known pathology, since deaths from it are exceedingly rare. In the ascending form the infection which has been engrafted upon urinary stasis in the kidney pelvis has generally already caused a distention of the pelvis, and from here the infection spreads to the pyramids, where a number of suppurative foci may develop and eventually coalesce. In the invasion of the kidney structure a number of small abscesses may develop in the parenchyma, a single large abscess may take the place of a considerable portion of the kidney substance or the abscesses may project themselves along the course of the tubules, around which areas is, of course, necrotic tissue. In every form of renal suppuration perforation of the pelvis or cortex and secondary involvement of the contiguous tissue, preferably the perinephritic areola layers, may occur.

If the primary focus of infection originates in the kidney parenchyma or interstitial tissue, it is most likely of the hematogenous or descending type; while if the original implantation is in the kidney pelvis the urogenous or ascending form of invasion usually prevails.

If a destructive pyonephrosis is followed by a spontaneous cure or arrest of the inflammatory action, a pronounced process of contraction or atrophy of the renal tissue takes place, with increase of connective tissue and cicatricial depressions on the surface—in a word, a secondary contracted kidney, arising as a result of suppuration, which differs from the genuine contracted kidney only in its etiology.

The symptomatology of renal suppuration is often so dominated by the condition to which it is secondary, as, for instance, typhoid, grip, or pneumonia in the descending infection, or by cystitis or calculus in the ascending type, that involvement of the kidney may not be suspected unless the examination of the urine has elicited attention.

Acute hematogenous pyelitis, without involvement of the parenchyma, usually begins with a chill and fever. There are generally definite symptoms of pain and tenderness in the back over the kidneys, with or without frequent urination. The pain is increased by jarring the body or by coughing and is often felt in the testicle or inside of the thigh on the affected side. Plugging of the ureter by masses of pus, blood, and mucus may give rise to attacks of pain, somewhat like those due to renal calculi, but the pain is rarely so severe.

Palpation generally reveals some tenderness of the kidney, though not always, and there is usually a perceptible enlargement of the organ. We can never decide with certainty, from the mere presence of pus in the urine, as to the place where the pus mixes with the urine, whether in the pelvis of the kidney, the bladder or even the urethra. As Strumpell says,

“If only we were able to demonstrate other morphological elements besides the pus corpuscles, so characteristic that their origin might be affirmed with certainty to be the pelvis of the kidney, we might, by means of them, make our diagnosis of pyelitis absolute.”

Unfortunately, however, the microscopical sediment of the urine leaves much in this regard to be desired. Greater value is given of late to the discovery of certain casts from the mouths of the urinary canaliculi—structures which are almost invariably involved in all but the mildest cases of pyelitis. Tubuliform epithelial casts, cylindrical formations composed of pus corpuscles, and, above all, casts composed of micrococci, have been repeatedly found in the urinary sediment in cases of pyelitis, and these possess some diagnostic importance.

The tendency of the urine to ammoniacal fermentation is decidedly greater in cases of cystitis than in cases of pyelitis. The amount of albumin corresponds to the amount of pus. In cases of simple pyelitis it is exceptional for the urine to be bloody, while in calculous pyelitis blood is often present.

The fever, however, seldom shows a distinct pyemic character except in the severe, purulent forms, when we usually also have the formation of renal abscesses. Such symptoms are to be referred partly to the general pyemic infection of the body and partly, as well, to the absorption of ammonia from the decomposing urine into the blood—the ammoniemia of Treitz and Jaksch. The quantity of urine passed is usually scanty in acute pyelitis, but profuse in the chronic form.

Greater progress in the more exact diagnosis of diseases in connection with which pyuria occurs is due to cystoscopy and the separate examination of the urine from each kidney, made possible by the catheterization of the ureters.

The presence or absence of a stone or stones can only be determined by the aid of the Roentgen ray, and the interpretation of such skiagrams belongs to the province of the expert.

Prognosis depends largely upon the cause of the malady and the state of the kidney. If the condition is simply one of pyelitis occurring during the course of one of the infectious diseases, the outlook is not necessarily bad. If the suppuration is marked the prognosis is not good, and if the kidney structure is involved to the extent of pyonephrosis the prognosis is bad, and death may come from the exhaustion of prolonged septic fever, from the extension of suppuration to the other parts or because of amyloid degeneration in other organs.

The treatment must take into account rest as one of the most important factors, as it economizes the patient's strength, facilitates repair

of tissue and lessens the energy demands to be supplied by food.

When patients are free from fever they are better out of bed, and the amount of exercise and work allowed them should depend on their reaction to the same in terms of well-being and weight. The prophylaxis of renal suppuration is of paramount importance, since in the ascending type it follows septic infection of the lower urinary tract. The utmost care regarding asepsis is imperative in all examinations of and operations on the lower urinary organs if infection is to be averted. From the diet we should exclude all articles or substances which irritate the kidneys in the process of elimination or imperil the digestion. It should include meats in moderation, fish, eggs, vegetables, fruits, cereals, breadstuffs and simple desserts, with variety enough to preserve the appetite. Milk, either sweet or sour, should form a part of each meal. We should exclude from the dietary all condiments, peppers, mustards, radishes, onions and most salted, smoked, potted, deviled and otherwise preserved meats, as well as rich gravies and pastries.

If pain is not severe it may be relieved with aspirin or some of the coal-tar derivatives. When great, as in the passage of pus and mucus plugs, morphin or some opiate will be demanded for relief. The condition of the bowels should be a matter of concern, as their neglect not only results in malaise, headache and impaired appetite, but pressure of the distended gut on the ureter encourages stasis of its contents and forwards the process of infection.

Diuretics and urinary antiseptics are the medicines to be particularly directed to the kidneys. Water is the best diuretic and a liberal amount should be drunk regularly. The quantity consumed may be further encouraged by adding to it fruit juices, lemon peel, and sugar to the taste. The alkaline diuretics, such as the acetate and citrate of potassium and some of the mineral waters, may serve a useful purpose when we have a strongly acid urine.

Of urinary antiseptics, urotropin undoubtedly holds favor with the greatest number of physicians, and this drug is thought to act best in an acid medium, hence its combination with benzoic acid or some of its salts. A favorite prescription of the Murphy clinic is three to five grains each of urotropin and sodium benzoate three to five times daily.

"Studies in immunization by means of vaccine therapy have brought to the physician hope in abundance and results in some measure."

In colon bacillus infection the autogenous vaccine promises much. I am now using an autogenous vaccine from a streptodiplococcus infection in pure culture, with apparent benefit. The autogenous vaccines are considered

superior to the stock in all forms of infection except the Neisserian. The above measures failing to effect a cure or give relief, it becomes incumbent upon the physician in all cases of nephrolithiasis and pyelonephritis with secondary purulent inflammation to consider the propriety of, and to even urge, surgical intervention by means of nephrotomy or nephrectomy.

Before attempting nephrectomy in any case, it is imperative that a healthy functioning condition of the opposite kidney be determined and this can be done only by the aid of the cystoscope and ureteral catheterization.

ROENGENTHERAPY FOR ANGIOMAS

WITH REPORT OF CASES *

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Angiomas are usually congenital lesions commonly characterized as birth marks, nevi, strawberry marks, etc. Angiomas¹ are tumors resulting from the new formation of vessels. Hemangiomas arise from blood-vessels and lymphangiomas from lymph-vessels.

Hemangiomas and lymphangiomas present a favorable field for massive dose röntgenotherapy. Because of their growth characteristics and unfortunate anatomical situations, lymphangiomas and hemangiomas do not always lend themselves to satisfactory surgical excision.

Simple hemangiomas are growths composed of capillaries projecting a little above the surface of the skin and are usually formed by the dilatation of preexisting vessels. They are congenital and keep pace in growth with the growth of the child.

Cavernous hemangiomas present larger blood spaces, the walls of which are thin. Frequently congenital, they may remain stationary or there may be a growth of the vessels in length as a sudden unfortunate event.

Simple hemangiomas are usually serious only as a deformity, but the cavernous type may suddenly become serious.

Lymphangiomas are usually congenital maldevelopments of lymph channels. In rare instances, as in macroglossia, there is an inflammatory increase of the connective tissue. The lymph spaces are large as in the cavernous hemangiomas. They are important because of their size, their unfavorable surgical situation, the possibility of rupture, or a gradual proliferation and extension.

These growths are located frequently about the eye, cheek, lips, tongue and neck — situa-

* Read before the Midwest Roentgen Meeting at Chicago, March 3, 1915.

1. Hertzler: Tumors, Lea & Febiger, 1912.

tions where ablative surgery is exceedingly difficult or impossible, and if surgery is employed the resulting deformities are very undesirable.

The Röntgen treatment of these lesions is based upon biologic röntgen effects which have been proved by experimentation and practice. The tunica intima of blood-vessels is especially



Fig. 1.—Cavernous hemangioma at inner canthus of left eye before Röntgen treatment was instituted.

radiosensitive, that is, capable of absorbing Röntgen rays, which eventually leads to the obliteration of the vessel channel. The ray also promotes the proliferation and contraction of connective tissue elements.



Fig. 2.—Same case eight months later. The growth above the surface of the skin has disappeared. The outlines of the two canthi correspond.

Just these biologic effects are those to be desired to promote the involution of angiomas. The use of Röntgen filters are necessary to prevent the superficial skin or mucous membrane reaction which would certainly ensue without their use. The amount of filtration will vary

with the depth of the lesion beneath the skin surface and the penetration quality of the ray used.

The administration of a massive dose at increasingly longer intervals seems to achieve better results. The longer the lesion has been under treatment, the more ray will be required to obtain further benefit. This is not because of the increased tolerance of the tissues to the ray so much as to the changes that the Röntgen therapy has produced in the tissues, which require more ray to affect them. For instance, the first ray treatment produced the obliteration of certain small vessels and an increase in connective tissue. Subsequent treatments increased these characteristic changes until the growth took on changes which might be compared to a subcutaneous keloid. To produce the contraction of such tissues requires more ray of penetrative qualities than is required to affect merely the intima coat of blood-vessels and lymph channels.

CASE REPORTS

CASE 1, No. 5043.—Baby, C., aged 3 months. Cavernous hemangioma of congenital origin at inner



Fig. 3.—Same case after one year.

canthus of left eye. This compressible tumor mass filled up the inner canthus and protruded beyond the anterior surface of the bridge of the nose, causing a long, oval swelling along the internal half of the left eyebrow. The surface was somewhat excoriated and there was a horizontal fissure as a result of plaster treatment.

Deep röntgenotherapy in massive doses was given at one séance while the patient was under a general anesthetic. Treatments were repeated at six weeks, four months, seven months and twelve months under anesthesia. One to two millimeters of aluminum filtration and lead mask adapted to the lesion were used.

The results were extremely satisfactory, as the affected left canthus now corresponds to the right canthus in anatomical outlines. (See Figs. 1, 2 and 3.)

CASE 2, No. 5675.—Boy, C., aged 11 years. Lymph-angioma of lower lip. There was a symmetrical enlargement of the entire lower lip; the mucous surface was turned out presenting a glazed surface without a wrinkle. Deep röntgenotherapy in massive doses was applied to the right and left half of the

lip with compression under thin glass. Two millimeters of aluminum filtration and lead masks adapted to right and left lip areas were used. Treatments were repeated at six weeks and three months.

The lip has receded to almost normal size and is full of wrinkles.

CASE 3, No. 5.—H. C. M., aged 18 years. Lymph-angioma of tongue, which appears as an elevated fungus-like mass on the superior surface of the middle portion of the tongue. Deep röntgenotherapy in massive doses, through two millimeters of aluminum and conical protection tube was applied. The tongue was extruded through the widely opened mouth and compression was applied by the edges of the circular protection cone. Treatments were repeated at two-month intervals. The recession of the growth was slow but quite satisfactory eventually. There was no interference with eating or drinking.

Each of these cases presented a difficult if not impossible surgical aspect. The mutilation necessary to the surgical removal would have been quite disfiguring to the eye case in the baby girl and the lip case. The surgical problem in the tongue case was almost insurmountable both as regards the primary surgical operation and the after-treatment, not to mention the necessity of a good flexible tongue to an ambitious, healthy youth.

The favorable outcome of such cases after careful röntgenotherapy should promote the substitution of a painless, nondeforming Röntgen treatment in preference to the mutilation of surgical procedures.

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MOTILITY OF THE AORTIC ARCH

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That the heart changes its position with that of the body, has long been known. That this motility may be sufficient to cause definite symptoms, has been pointed out by several observers. But that the aortic arch may change its form and position with the movement of the body, has not been pointed out in any literature to which I have access.

A moment's reflection will show that such motility, if confirmed, is of vital importance, in that it explains the discomfort to which its victims are subject. For example, it will cause dyspnea both on account of the traction on the nerve trunks and its pressure on the bronchi and other vessels. It will cause a sensation of weakness and faintness because of its interference with the heart action, and the volume of the arteries. Thus the patients afflicted with such a motility will complain of symptoms which will lead the superficial observer to class them as neurasthenics.

This leads me to speak a moment about neurasthenia. Beard's introduction of the term "neurasthenia" was not an unmixed blessing.

Its value lay in its recognition of a symptom complex; but its disadvantages lay in that it satisfied some diagnosticians with a name without delimiting the etiology. This tendency is not in accord with that of modern medicine, for the advance of the last generation in medicine has been the realization that a causal classification of diseases and a treatment aimed at the etiology is the only sound method of procedure—and neurasthenia is not a disease or disease process.

When now we find patients complaining of inability to work—of inability to maintain sustained effort—the task before us is something more than to conclude that they are neurasthenics and weaklings. For even if they be weaklings there may be flaws or break-downs in their bodily machinery that we can correct; and these, if corrected, will make such patients more nearly useful citizens. In other words, we should seek out the physical substratum for the neurasthenia or myasthenia.

But return for a moment to the general subject of cardiac motility: The term "cor mobile" was introduced into the literature by Cherchevsky in 1887. He based his work on the lateral movement of the apex beat. A change in position greater than 3 cm. he regarded as pathologic.

The term "cardiopsis" was introduced by Rummo in 1900, and Braun (1902) tried to differentiate the two conditions, cor mobile and cardiopsis; but Einhorn (1903) makes them synonymous.

Einhorn defined cardiopsis as the condition wherein the absolute cardiac dulness lies below the fourth rib and the relative dulness below the third, with the apex beat lower than the sixth intercostal space. He found among 926 patients (512 men and 414 women) 22 (18 men, 4 women) with cardiopsis. In these cases the lateral shift of the apex beat was greater than 3 cm.

This increased mobility can in the opinion of the authors who have written on the subject (Cherchevsky, Pick, Hoffman, Schmidt, Leusser, Rummo, Einhorn) cause distinct symptoms. Sometimes the symptoms seem to be those of a general neurasthenia, but often the relation between the intrathoracic condition and the symptom is so direct that it must be thought of as causal. The symptoms usually mentioned are palpitation, vertigo (fainting), and inability to lie on the left side.

Sahli (2d Ed., p. 231) summarizes the work of Moritz and Dietlen, who used orthodiagraphic methods to outline the heart in different body postures: "In changing from recumbent to erect the heart sinks from 2 to 4.5 cm. . . . With the assumption of the erect posture the heart as it descends assumes a more vertical position, revolving on a sternovertebral

axis passing through the great vessels, so that the transverse diameter of the shadow is shortened 2.5 cm."

I can find no references, however, to reports of cases wherein the aortic arch varies in different subjects. But they do not say that it changes with the position in the same subject. For that reason the case history and illustrations given herewith should be of some inter-

at one-fourth hour intervals it was 96, 104, 108, 106, 94, 94, 92, 96. Adrenalin chlorid, 1 c.c., 1:10,000, intramuscularly.

	Pulse	Temperature	Respiration
Before	84	98.6	20
15 minutes	88	99.1	20
15 minutes	90	98.4	20
15 minutes	92	99.1	20

Pilocarpin 1/6 hypodermically.

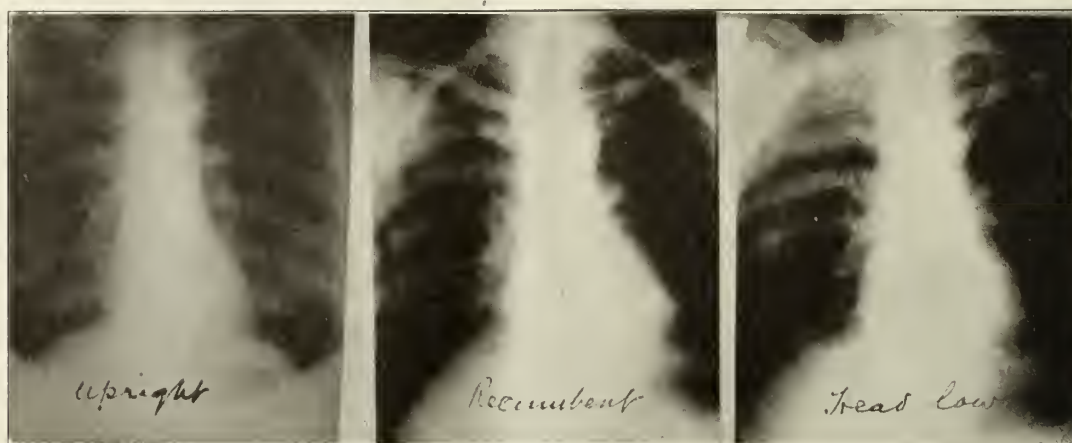


Fig. 1.—Reduction of 11 × 15 plate showing the arch and heart in the three postures.

est. Bordet and Vaquez do say, however, that the height of the aortic arch varies in different subjects. But they do not say that it changes with the position in the same subject.

The following case history wherein the extraordinary mobility of the aortic arch caused distinct symptoms is sufficiently unusual and instructive to justify its publication.

Mrs. H., aged 59, mother of seven children, has suffered since the birth of her last child (25 years) with a feeling of oppression in the upper chest and of a tightness about the neck. She cannot walk far or do vigorous work. There is no cough; she has occasional headaches, poor appetite and is constipated. Ache in lower abdomen and back. Inclined toward melancholia and weeping. Sleep poor. On closer questioning she says that she aches when she first lies down and that she has a choking sensation when she first rises.

Patient is a short, well-built woman of German descent. Her best weight was 135, now 115; pulse 80, temperature 98, respiration 20, blood pressure 80 diastolic, 125 systolic. Friction rubs are heard posteriorly between the left scapula and spine and anteriorly under the manubrium sterni and about 1 inch to either side. The stomach is dilated and ptosed to pubis. Blood: hemoglobin 100, reds 4,700,000, whites 5,000, polymorphonuclears 82.

Urine: acid, specific gravity 1.018, increased indican, quantity variable (28-90 oz.).

She was put in a hospital for observation. The temperature range was found to be 96.8 to 100.5 (the latter only once). Pulse 68 to 124 (the latter only once). Respiration 16 to 30. (These figures include the drug tests noted below.)

To ascertain her nervous reactions these tests were used: pituitrin, 1 c.c. hypodermically; no effect. This was repeated several times. Atropin, 1/75 hypodermically: before injection the pulse was 92; afterward

	Pulse	Temperature	Respiration
Before	106	99.2	22
½ hour	116	98.4	26
½ hour	116	98.2	26
½ hour	108	98.1	26
½ hour	98	98.0	24

Profuse perspiration.

Roentgen ray study showed a mobile aorta and heart. The arch is below the first rib when the patient stands, covers the first rib when lying horizontal and reaches the level of the clavicle when the head is low. The difference in height in the two

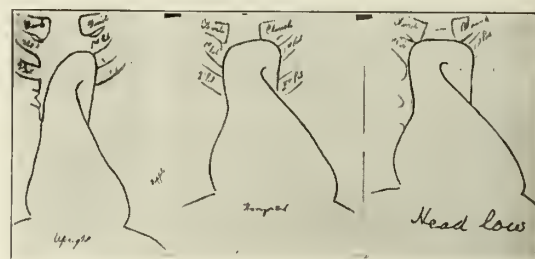


Fig. 2.—Reduction of tracings made on the 11 × 15 plates, interpretative of the outlines in Figure 1.

extreme postures is three-fourths inch. The height of the heart and diaphragm varies by this same figure. The horizontal diameter of the heart is one inch greater when she lies down than when standing. The right margin bears the same relation to the sternum in all the three postures.

Evidently in this case there existed a loosening of the usual supports of both the abdominal and thoracic viscera. Our work would indicate also that her distress was not the result

of abnormal nerve control or glandular secretion, but rather the result of the mechanical condition. The only method of treatment possible was apparently that of assuring the patient that no disease process was present and then trying by the putting on of fat and the development of the muscles to secure better visceral support.

This case shows the advantage of examining our patients with the fluoroscope and Roentgen-ray plate in different postures and of comparing the findings from the different postures. For it is manifest that the mobility of even the intrathoracic organs varies from zero, in the arteriosclerotics, to dimensions that give rise to decidedly uncomfortable symptoms.

Another deduction which if confirmed is of considerable importance is that the changes in the heart's position are due not to its rotation but rather to the elasticity of the aortic arch. This gives us the more acute angle when the patient is upright and the broader arch when the patient is recumbent.

I am indebted to Dr. L. A. Marty for his painstaking Roentgen-ray studies and for making the prints for the accompanying illustrations.

1334 Rialto Building.

A CLINICAL CONTRIBUTION TO THE STUDY OF UTERINE FIBROIDS*

MARY H. McLEAN, M.D.
ST. LOUIS

Dr. G. Brown Miller states that fibroid tumors occur in from 20 to 30 per cent. of all women reaching thirty-five years of age. Moynihan of England estimates their frequency at about 20 per cent. So frequent are these neoplasms that all gynecologists and most general practitioners come into charge of a number of cases; and it seems worth while now and then to exchange experiences and to secure from free discussion more light on the several problems which they present.

The etiology of myofibromata is still obscure. It has been observed by many that they develop more often in the colored race than in the Caucasian, and are more frequently found in brunette people than in blondes; but a working theory has not been found to fit these facts. Dr. H. A. Kelly thinks they probably exist in fetal life in a diminutive form, although they do not usually develop until middle life.

The question of heredity has frequently excited discussion. I have operated for multiple uterine myofibromata in four sisters of one family and in three sisters of another. But

heredity has not been proved in any satisfactory way. The etiology remains for future investigators to elucidate.

Submucous Fibroids.—Submucous fibroids are more apt to come under professional observation at an early stage than either interstitial or subperitoneal fibroids, because of their greater tendency to hemorrhage. In spite of this tendency and history, however, some such tumors are allowed to grow to enormous size before interference is permitted. One of my early cases was a neglected hemorrhagic case. The patient, past 50 years of age, had been a sufferer for many years from pain, hemorrhage and a disagreeable, irritating discharge. One attempt at vaginal extirpation had been made a few years previously, but the frightful hemorrhage encountered in attempted morcellation of the large mass caused the operating surgeon to desist from further effort. A very tight tamponade left in situ several days finally stopped the hemorrhage and the patient left the hospital without any relief.

With knowledge of the previous experience, we performed an abdominal hysterectomy. The tumor had stretched the uterine walls into almost papery thinness, had entirely effaced the cervix, and had very much disturbed the landmarks. We succeeded in tying the large vessels and extracting the tumor, but were obliged to use gauze packing to control persistent oozing draining into the vagina.

The patient suffered from severe shock for two days; she then rallied and for three days made notable gain in strength in spite of some continuous leaking. The vaginal tamponade was removed and renewed on the fifth day. On the sixth day the patient died suddenly of pulmonary embolism.

A second interesting case of submucous fibroid came under our care in 1903. The patient's age was 28. We found a bleeding mass the size of a lemon protruding through the dilated cervix and attached by a broad pedicle to the right side of the uterine body near the fundus. We succeeded in separating the tumor with serrencuds and scissors, packed the cavity with iodoform gauze for 48 hours and had a good recovery.

Three years later, in 1906, the patient gave birth to healthy twins, but soon after the labor she noticed a hard lump in her right side. She was delivered of another healthy child in June, 1910. Had no postpartum hemorrhage after either labor and had normal convalescence. For some time before and after the birth of the last baby, and occasionally, up to May, 1912, the patient used a catheter to empty the bladder without experiencing any disagreeable results.

In January, 1913, the patient consulted me because of increase in size, and very profuse

* Read before the St. Louis Medical Society, May 22, 1915.

menstrual periods. We found a large, nodular uterine mass reaching a bit above the umbilicus and pushing into Douglas' culdesac. There was also a deep, bilateral cervical tear extending into the vaginal vault, and torn levators causing rectocele. We repaired the perineum and the posterior vaginal wall and then did an abdominal hysterectomy, leaving the healthy right ovary on top of the shelf made by united broad and round ligaments. The patient left the hospital in excellent condition at the end of three weeks.

A third case of submucous fibroid was in a single woman of 34 who had suffered from increasing blood loss for 14 months and for six months had noticed a lump in the abdomen. When I saw her the abdomen was as large as in an eight-month pregnancy and she was very anemic with hemoglobin of about 40 per cent. After building her up to between 60 and 70 per cent. hemoglobin we operated and removed the uterus containing a large fibroid undergoing mucoid degeneration.

Complications.—Fibroids demand attention, not only for themselves, but for the frequent complications accompanying them. They may be complicated with tubal inflammations and infections, with unilocular, multilocular, or dermoid ovarian cysts, with bowel adhesions, with pregnancy, or with malignant degenerations, inclusions, or associations.

One of the most interesting complications in my experience was in the case of a colored woman, aged between 50 and 60, who had an immense fibroid uterus of many years' existence, which was adherent to nearly eight inches of the transverse and descending colon. The dissection was difficult on account of the great risk to the mesenteric circulation, but it was accomplished and the patient made a good recovery and continued in hard work for many years.

Another case was complicated with a detached subperitoneal fibroid about the size of a kidney at the left border of the lower lumbar vertebrae. It is possible that the detached tumor had been a subperitoneal tumor near the cervical region, which pushed the peritoneum above it and had become detached. After its enucleation we packed the cavity with gauze to stop persistent capillary oozing. The gauze was withdrawn on the third day. At the end of ten days a secondary operation became necessary on account of an obstructive adhesion between the ileum and the sac of the detached tumor. The patient, fortunately, made a good recovery.

A third interesting complication was a malignant papillomatous cyst of the left ovary. In delivering the cyst together with the multiple fibroid of the uterus the cyst was ruptured. We cleared the field as quickly and thoroughly as we could, but the patient some years later developed a malignant disease of the sigmoid

which was possibly associated with the preëxisting malignant growth of the left ovary.

Pregnancy Complicating Fibroids.—This complication is not uncommon and sometimes raises a very important question in the line of treatment. It seems pretty generally agreed in recent years that interstitial or subperitoneal fibroids well up in the body or fundus may safely be left until after delivery, whereas tumors of any size near the cervix may seriously interfere with the mechanism of labor. In many such cases myomectomy should be considered and can be done without necessarily interrupting pregnancy. Submucous tumors may give rise to serious hemorrhage at the time of delivery, if they do not cause premature termination of pregnancy.

Two of my cases are interesting in this connection. One was the case of an unmarried woman of 36 who presented herself in the sixth month of pregnancy with at least two easily palpable fibroid tumors and with a history of severe pain and of two hemorrhages during the pregnancy. A rapidly increasing nephritis in this case finally decided the question of operative interference and a Porro was done near the end of the sixth month.

The specimen showed one large and several smaller submucous fibroids besides four or five moderate-sized interstitial and subperitoneal tumors. Such a combination would certainly have entailed great risk of serious hemorrhage after delivery at term had the kidney condition permitted the completion of pregnancy.

Another patient, aged 34, presented herself at the end of the fifth month of pregnancy with two palpable fibroids, one very near the cervix on the right side and the other higher up on the left. During six weeks' observation the lower tumor seemed to grow considerably and surgical interference was carefully considered. The patient was informed of all the risks and advised to await developments, even though a cesarean section should become necessary. After the seventh month the tumors ceased to grow and forceps delivery was accomplished with little difficulty. Six months after delivery both tumors could hardly be identified, having shared the involution of the uterus.

A third case was interesting simply because unusual. In a cesarean section at term on a Russian Jewess, aged 23, made on account of a bi-ischiatic diameter of outlet of barely two inches, I removed six subperitoneal fibroids, varying in size from a walnut to a lemon. Examination a year after the section found no trace of any further fibroids and the uterus was in good position and of normal size.

Complication of Malignancy.—In a paper read by Ellice McDonald of New York in the A. M. A. meeting, June, 1909, he said: "It is

probable that malignant change will result in one case of every twenty patients between the ages of 40 and 50; one case in every eight of patients between 50 and 60; and one case in every four patients between the ages of 60 and 70."

Dr. Thomas S. Cullen of Johns Hopkins University was one of the first investigators to revolutionize our ideas of the relationship between fibroids and malignancy. We had been taught for several decades that fibroids were almost immune to malignancy. Cullen found sarcomatous degenerations and adenocarcinomatous inclusions in careful second examinations of many old specimens of fibroid tumors.

Dr. Rufus B. Hall of Cincinnati, in a paper before the American Medical Association of Obstetricians and Gynecologists, in September, 1912, said:

"Taking a large series of cases, numbering more than five thousand, operated by different surgeons, cancer was found to be present in from 3 per cent. to 8 per cent. of all tumors removed. The writer is of the opinion, judging from his own experience, that the latter figure is more nearly correct."

Baum of Berlin finds sarcomatous degeneration in 10 per cent. of fibroid tumors.

A very interesting case illustrating this point came under my care a few years ago. The patient, a very busy woman of affairs, had numerous small pedicled fibroids around the uterus with profuse and irregular menstruation. A thorough curettage checked the hemorrhage and the patient passed through a fairly comfortable menopause. She was asked to report, even in the absence of symptoms, every four months. Feeling unusually well, she failed to follow advice and came for examination only after a full year from the last visit connected with the curettage. I found that two of the fibroids had grown rapidly during the year and urged immediate operation. As her home was in Cleveland, I sent her to Dr. Crile for operation, who reported to me sarcomatous changes in the fibroids as the cause of rapid growth.

Another patient had an interstitial fibroid of moderate size of several years' known history. Operation had been repeatedly advised on account of pressure symptoms and hemorrhage, but the patient refused her consent. After at least seven years of very slow growth, the fibroid uterus suddenly developed malignant changes and the woman died after eight months of great suffering, with a large sarcomatous mass overfilling the pelvis.

The Question of Surgical Treatment.—Noble of Philadelphia, in 1903, studied statistics from 688 cases treated by himself and three other

surgeons; he concludes that "without operation at least one third of the cases will be fatal; one fourth chronically invalided and most of the remainder incommoded."

Dr. G. Brown Miller says: "The mortality for conservative treatment of myomectomy and hysterectomy in all cases is from 2 to 10 per cent. now and would be lower in earlier operations. Myomectomy is generally the operation of choice in young women and child-bearing women when the tumors are not too many or too deeply buried in the uterine wall; but in women of many tumors and in women near the menopause, the consensus of opinion is in favor of hysterectomy, except in cases of very small tumors which produce no symptoms and which can be carefully observed at intervals of a few months."

Dr. Ellice McDonald, in the study of seven hundred cases, makes the following statement: "In view, then, of the large percentage of serious degenerations and complications of fibroid tumors, and of the great increase of malignant and other complications with age, it seems wise that a physician should advise all patients who have fibroid tumors to have these growths removed; for if they are not removed the probabilities are that the dangers from them will increase with age."

Dr. Rufus B. Hall, in the paper quoted above, also says: "The number of cases showing heart disturbances is very large, amounting to 40 per cent. in late cases."

He favors early operation for all cases with symptoms unrelieved by two or three months of palliative treatment.

Professor Schauta of Vienna also advocates early operation for uterine fibroids, because of the frequency of sarcomatous degeneration, the tendency to carcinoma of uterine mucosa, the risk of cardiac atrophy and endocarditis, and the danger of kidney complications.

Some Opinions on Roentgen-ray Treatment.—There seems to be great difference of opinion on the results of Roentgen-ray treatment between our British and German medical friends. Archibald Donald of Manchester, in a paper on "Treatment of Fibroids" read at the 1914 annual meeting of the British Medical Association, said: "I may state at once that I am strongly opposed to the treatment of fibroids by Roentgen ray. My objections are as follows: 1. There is difficulty in the sure diagnosis of fibroid, as it may be mistaken for pelvic inflammation, ovarian tumor, sarcoma, carcinoma, etc., or other complication may exist. 2. We cannot be assured that subsequent degenerative changes may not occur. 3. The mortality of operations is very small, and the results sure."

Karl Gauss, professor of gynecology at Freiburg, at the same meeting said: "Roentgen-ray

therapy has practically replaced operative procedures in treatment of myomata in Germany. He reported the Freiburg cases up to January, 1914:

	Cases	Cures, Per Cent.	Death, Per Cent.	Recurrence Per Cent.
Group 1.....	693	72	0.5	4
Group 2.....	544	82	0	3
Group 3.....	158	95	0	0

He added, "Our experience as to permanency of results is very satisfactory."

In the discussion of this subject all other British authorities condemned the Roentgen ray in favor of operation.

Dr. Beclere of Paris reports the use of Roentgen-ray treatment in myomata with very satisfactory results.

Dr. Edgar Birdsall published last year in the *Medical Record* an article on "X-Ray Treatment of Myoma," in which he specifies some definite limitations, while asserting the usefulness of therapy in many cases. He says:

"Roentgen ray should not be used in women under forty. He reviews over a thousand cases reported in the last International Medical Congress, and says: "The entire disappearance of tumor has been noted in 75 per cent. of cases reported." He thinks the arguments against the treatment are the expense and the length of treatment, 3 to 6 months being necessary.

The Radium Therapy of Fibroids.—In recent years radium has been brought into prominence in fibroid therapy as a distinct advance on the Roentgen-ray therapy, inasmuch as it accomplishes quite as much in a very much shorter time.

Dr. H. A. Kelly published a paper in the *Journal of the A. M. A.*, in August, 1914, on "Radium in the Treatment of Uterine Hemorrhage and Fibroid Tumors." In this paper he reports the work done by Cheron in the radium treatment of 120 small fibroid tumors, securing amenorrhea in 117 and decrease in the size of the tumor in 108. He also mentions a report of sixteen myomas treated by mesothorium by Gauss and Krinski, with resulting amenorrhea in all cases and the disappearance of the tumor in all but one case.

Dr. Kelly presents interesting data of his own twenty-one cases treated by radium with most gratifying results. In his conclusions he says: "We feel sure, as the result of these remarkable experiences, that radium offers a marvelous means for controlling, as well as for completely doing away with, uterine hemorrhages in the classes of cases cited. We believe also that it is perfectly suited to secure the disappearance of fibroid tumors. A radium treatment ranks in severity as scarcely more serious than a simple uterine curettage."

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DISCUSSION

DR. ROLAND HILL: In order to have a proper conception of the subject of fibroids it is necessary to dwell on a few points of the pathology of fibroid growths. These growths start interstitially. Later on they tend to gravitate to the surface, probably forced there by contraction, and become of the subperitoneal type; or if forced internally, become of the submucous type. Naturally, when they come on the inside of the uterus they will give rise to more hemorrhage and earlier symptoms than fibroids of the subperitoneal type. The subperitoneal fibroid may grow out into the ligament of the uterus and become intraligamentous. They may become pedunculated or sessile and form attachment to the mesentery or the bowel and secure a good deal of their nutrition from these sources, becoming what is known as parasitic. The uterine fibroids are not as vascular as the muscular wall of the uterus. They get their blood supply from the uterine muscle, consequently when they enlarge the blood supply becomes involved and as a result you are apt to have degenerative changes of all kinds, particularly the formation of abscess in the center of a fibroid.

What has always impressed me is the fact that the profession as a whole has not regarded fibroid tumor as being of the great importance it really is. They have regarded a fibroid tumor more from its mechanical standpoint than from the pathologic changes which it may produce in the system. Now, a fibroid tumor, as Dr. McLean has pointed out, is a serious matter. Dr. Hindon of the Hopkins gynecological department, in a personal communication, said in one series they had investigated they had found cancer in 12 per cent. of the cases. Also take into consideration the mortality that will ultimately result from cancers in fibroids, and the fact, too, that a large fibroid brings an increased strain on the heart, you perceive that it is not the mechanical part of the fibroid that makes operation necessary in many cases, but the danger of malignancy, the danger of further changes throughout the system. These are of much more importance than the mechanical effect of a fibroid of moderate size.

The question of operation in this field is, of course, a tremendously broad one. Fibroids present so many different clinical manifestations that it is almost impossible to dwell on more than one or two facts. One point, however, is the question of myomectomy or hysterectomy. Of course, in a young person with a not extreme condition, we try to save the uterus where we can. At the same time I believe hysterectomy is a much safer operation, as a rule, than myomectomy, especially if the myomectomy is an extensive one. After an extensive myomectomy you find the temperature and pulse run up, and there is much more danger of hemorrhage and of gangrene of the parts than there is when hysterectomy is done. There is another factor—the question of whether, when doing a hysterectomy for a fibroid, the hysterectomy should be subtotal or supravaginal or whether it should be complete. In the large clinics of this country I have found that supravaginal amputation is done; this has the advantage of increased support, of being easily done, and of being less liable to embolism. Where the cervix is left, of course you have a slight danger of fibroid and malignancy occurring in this part.

DR. ELLA MARX: One point that I would like to refer to is the fact that a fibroid of the submucous type may become an obstruction to labor, yet may not have been diagnosed previously. I ran across it once and I suppose others have seen it. Even if you have a uterus that shows no external evidence of fibroids and get a head that is persistently in the wrong position, you may easily find in examining for the

cause of the persistent malposition that it is a submucous fibroid. The other point that I have thought of is with reference to a woman who was found to have had no symptoms from her fibroids. I have had in my experience a great number of fibroids which have been discovered by the patient herself simply feeling a lump in her abdomen. Having been told that she ought not to have lumps in her breasts or in her abdomen, she comes to find the cause of it. In a great majority of the fibroids we have no symptoms before the finding of the tumor by the patient herself, and consequently it is of great importance to make women understand that an unusual lump in the abdomen should be investigated.

DR. FRANCIS REDER: You who are well acquainted with diseases of women and have subjected some of your patients to a laparotomy will undoubtedly agree that there are good fibroids and bad fibroids. The good fibroid is usually of the subperitoneal type and remains harmless up to a time when it causes symptoms, that is, if it ever causes symptoms. Such a time during the life of a fibroid will always be problematic. I have had a patient who had a good fibroid under observation for fourteen years, when the tumor ceased to remain good and surgical intervention became necessary. At the time of operation this patient was 82 years old. She made a good recovery.

The principal thing I wish to allude to is the co-existence of fibroids with pregnancy. This is an exceedingly weighty problem. Of all the uterine fibroids, the submucous type exercises the greatest influence in preventing conception. When pregnancy occurs in cases of submucous fibroids, the tendency is for gestation to be interrupted by hemorrhage, usually before the third month. The interstitial or mural fibroid, lying low down in the body of the uterus, anteriorly, posteriorly, or between the folds of the broad ligament, offers little hindrance to conception. Here the danger, when conception has taken place, lies largely with the site of the growth. Gestation, on account of the increased vascularity of the uterus, stimulates an interstitial tumor in its growth and as a result the tumor or the pregnant uterus may become incarcerated in the pelvis. Unless the tumor or the organ is released, a marked tendency to abortion during the first four months of gestation is favored.

Subperitoneal tumors are the least unfavorable to pregnancy. They give trouble chiefly through their pressure effects.

Assuming that we have a coexisting condition of pregnancy with a fibroid, the gestation period having almost reached full term, what are the dangers? I may state here, before answering this question, that it not infrequently happens that a woman is safely delivered of a living child, and the tumor that may have been of alarming size during pregnancy, may become insignificant in size during the lying-in period. These, however, are the lucky deliveries. Usually, during labor, we find abnormal presentation, prolapse of the cord and extremities, hemorrhage, placenta praevia, inefficient pains, rupture of uterus and perhaps occlusion of the birth canal, rendering delivery impossible. Should delivery have been happily accomplished, the woman faces such dangers as a retarded involution, an infection with softening of the tumor, general sepsis, and possibly death from exhaustion. In delivery by the natural passage at term the maternal mortality runs from 25 per cent. to 55 per cent., and the fetal mortality to 77 per cent.

It may be of interest to recall the high mortality caused by an induced abortion in the presence of a fibroid; it is 33 per cent., whereas in abortion occurring as the result of the complication of a fibroid it is 12 per cent. I mean an abortion brought on by the tumor condition itself.

You can readily infer from this what a weighty problem faces the surgeon when a patient is brought to him the doctor says: "Here is a patient pregnant three months, with a fibroid. Whatever you say will be done." This woman is probably very anxious to have a child, she has been married six years, and has never before been pregnant. This is a problem that has to be solved. It is for you to determine whether operative measures should be instituted, and if so, when; or whether the case should be treated along expectant lines. The general indication for government in these cases is a humane regard for both lives, but that of the mother must ever take precedence. Hysterectomy should be done in all those cases in which independently of pregnancy, relief is urgently demanded. The mere growth of the tumor is not in itself a warrant for intervention. It is the position of the tumor and its future behavior that will determine our course. Yet we must not lose sight of the fact that nature's resources are great and that an apparently hopelessly incarcerated tumor or uterus may be released before any accident has taken place; for this reason, we must not decide hastily on operation.

Myomectomy during pregnancy is a serious procedure, yet there are cases when this operation must not be excluded from the list of justifiable procedures.

The cervical tumors offer the greatest obstruction to labor. They enlarge rapidly and if an operative measure for vaginal enucleation before the fourth month does not seem feasible, the possibilities should be considered of permitting the case to advance until the child is safely viable, when cesarean section followed by complete hysterectomy will be the preferable procedure.

Unless the tumor embraces conditions that must be interpreted as extremely dangerous to the pregnant woman, possibly the safest course to pursue in a pregnancy complicated with a fibroid or fibroids is to allow the patient to go as near as possible to full term and then perform a cesarean section, to be followed by hysterectomy.

CYSTOSCOPIC REPORT OF A CASE OF HEMATURIA *

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History.—Mrs. E. T., aged 24 years, married three years, nullipara; has had several abdominal operations, including one for acute appendicitis and an operation on her right kidney. The hematuria is of nine years' standing. Recently some pieces of glass from a broken glass catheter were removed from the bladder.** Her general health is good; no loss of weight; before the glass was removed she had much reflex pain in her right kidney, but catheterization of the ureters recently proved negative.

Present symptoms are almost constant pain in the region of the bladder, often reflected into the urethra; a constant desire to urinate, irritability of the bladder, alternating with a toler-

* Cystoscopy demonstrated (both methods) and patient presented before the Jackson County Medical Society, clinic night, Jan. 19, 1915.

** The several pieces of glass shown in the illustration were removed by the author; the patient was in the Kelly or knee-breast position and a No. 10 cystoscope was used.

ance for a considerable quantity of urine. Blood is always present in the urine.

The urine is often acid, sometimes alkaline, odor very offensive, and contains bacteria in great abundance; capacity of bladder is good. *Bacillus coli communis* present in pure culture.

Cystoscopy by water method and the electric cystoscope reveals frequent small ulcers here and there over the trigone and in other portions of the bladder; the mucosa red and inflamed; no tubercles at or near the ureteral orifices. Just to the right and a little posterior to the right ureteral meatus there is a slit or linear ulcer, which bleeds when touched. The ureteral catheter fails to enter this slit and many bands of scar tissue are seen on the mucosa of the bladder.

Cystoscopy by the Kelly method with air distension with a No. 10 cystoscope shows the mucosa red and inflamed all over the bladder. Many patches of very red areas cover the surface and several ulcers are easily seen. Trabecular bands are also plainly visible. The right ureter is found easily, and the cut or linear

(d) Or is it merely a chronic linear ulcer resistant to treatment?

Treatment.—Irrigations with boric acid solutions chiefly; topical applications of silver nitrate, through Kelly cystoscope, and urotropin internally. The bladder often heals very satisfactorily, but the ulcer referred to fails to respond well to local treatments, and persists as the exciting cause of repeated attacks of sub-acute cystitis.

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THE SURGICAL TREATMENT OF GOITER*

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In the surgical treatment of all forms of goiter except carcinoma and sarcoma, at least one sixth of the gland, together with the parathyroids, must be left unmolested. The treatment of benign goiter becomes the enucleation of a simple tumor, as in any other part of the



Pieces of broken glass catheter removed from bladder through cystoscope.

ulcer is plainly visible, grayish in color and about the size of the ordinary ureteral slit. Probe cannot readily be made to enter the slit, but slides over the ureteral meatus, which it enters with ease. The urethra is very much inflamed all along its extent. Some weeks ago a searcher or probe, by being made to enter this slit near the right ureter, opened what seemed to be a cavity, and a foul fluid, several ounces in quantity, escaped. It was decidedly different in color and odor from the urine.

Often air bubbles escape with the urine when the catheter is used, and the patient says she has passed air from the bladder.

Diagnosis.—(a) Ulcerative cystitis, due to colon bacillus infection following the original catheterization, plus long-continued trauma of her bladder from the pieces of glass present therein.

(b) Or is there an acquired diverticulum and a diverticulitis originating from the cut in the bladder wall, and followed by an infection with resulting burrowing of urine and pus?

(c) Or is it a pocket or hole in the interstitial connective tissue of the bladder wall, containing a piece of glass?

body, and is attended with about the same danger to life as lipomata, etc.

With the cancerous forms, as in cancer elsewhere, a wide area of normal tissue must be included in the excised portion, for palliation only is to be expected from any treatment, and it becomes a matter of individual judgment on the part of the surgeon whether to substitute the condition of hypothyroidism, by the complete removal of all thyroid tissue, for the more rapidly fatal one of carcinosis.

In the surgical treatment of hyperthyroidism the one great element to combat is shock, and I wish to insist that the importance of knowing when to institute surgical intervention is far greater than skill in technic. A patient suffering from Graves' disease, and having a pulse of 120 beats or over per minute, is a desperately sick person, and slight effort, whether muscular, mental or therapeutic, may cause a discharge of thyroid secretion into the organism that is quite sufficient to precipitate a fatal issue.

In surgery of the thyroid, another point to keep in mind is that a thyroid which has once

* Read before Lewis County Medical Society, March, 1915.

become hyperactive is never safe from recurrence until enough of its glandular or secreting substance has been removed to prevent the remaining cells from producing the normal secretion in quantities toxic to the heart, nervous system and other organs, and the technic which does not seek to attain this end is inadequate. When hyperthyroidism first began to receive surgical treatment attempts to relieve the condition by excision or partial excision was the rule, and as a consequence, the mortality in the hands of experts was 25 per cent. Mayo, Kocher, Crile and Porter sought by ligation of the thyroid vessels, stealing the gland and by the injection of boiling water to institute a method of treatment that would reduce the mortality, and all accomplished the same thing, namely, they secured a period of glandular inactivity, in which a part of the organ might be excised, without the harmful reaction consequent upon any procedure to the organism harboring thyroid secretion in toxic quantities. The mortality was reduced to 3 per cent. in partial excision, and the fact established that it requires a reduced blood supply together with a partial removal of the gland to constitute proper surgical treatment for hyperthyroidism.

Abstractly considered, there is only one procedure in goiter that may be classed as curative, and that is partial excision, gradually performed or done by steps in about this manner: A patient suffering with exophthalmic goiter, having a pulse of 120 or over, should receive a week's rest in bed; at the end of this time ether should be administered to the point of complete narcosis, and if the pulse does not descend from 10 to 20 beats per minute, he should be returned to bed and rested for another week on a low hydrocarbon diet, then given morphin to the verge of narcotism, local anesthesia should be employed, and one pole of the gland ligated or injected with boiling water. Another period of rest follows this maneuver, when the opposite pole is similarly treated. Marked improvement usually follows such a course for several months, during which time the greater part of the thyroid body should be excised. The only point in the technic of ligation to be remembered is to tie the pole of the thyroid instead of the vessels alone. This can be done in a greater number of subjects through an oblique incision along the anterior border of the sternocleidomastoid muscle opposite the superior border of the hyoid bone, better than by either a transverse incision or the routine effort to tie it in the triangle of election, because in low-lying goiters the superior pole may reach a point only a little above the upper border of the sternum, and in the reverse condition of upward polar extension the vessels may enter the gland as high as the angle of the jaw.

Crile's method of stealing the gland is a good one in recent cases, but in advanced cases with tachycardia and intense nervous imbalance, nothing will succeed that does not lessen the blood supply preliminary to radical treatment. It is just here in those high degrees of hyperthyroidism that the injection of boiling water after the method of Porter does so much for these poor victims. The method is simple, the reaction light, and the effect prompt. It is as follows: The skin over a point corresponding to the upper pole of the thyroid is painted with iodine and injected with a 2 per cent. solution of novocain through a fine needle. In ten minutes a 5 c.c. syringe armed with a long needle is filled with water that is boiling in a vessel beside the table or bed, and introduced through the anesthetized area of skin into the gland where the superior thyroid vessels enter, and about 10 minims of the water deposited there. The needle is advanced one-fourth inch and a similar quantity of water is again deposited in the substance of the gland. This procedure is repeated until the syringe is emptied, or the isthmus of the thyroid is reached. The patient is put to bed for three or four days, and the operation repeated on the opposite side.

Partial excision is the goal to be sought, no matter what the preliminary method used, and not until this ordeal has been passed one year can we rest secure in the relative safety of the patient.

The technic of this is relatively simple and may be found in any work on general surgery. The points to keep in mind in excision are to control hemorrhage, avoid the parathyroids and recurrent laryngeal nerve, and provide drainage.

Summarizing briefly, I would say that the treatment for all forms of goiter is surgical. Simple or benign goiter may become malignant or hyperactive. The condition of hyperthyroidism is not considered amenable to medical treatment. Early surgical interference is to be desired in all cases showing signs of toxemia. The surgical treatment is to lessen the blood supply and excise approximately five sixths of the gland.

Responsibility in Rural Sanitary Improvement.—Again, this is within the purview of the county health officer. But the broadening of the outlook of the resident of the rural district is not the obligation of one man or one profession. The duty is shared by the church, the sociologist, the teacher, the minister, the welfare worker, in fact by all who bear responsibility because of position or knowledge. Where to begin is a point to be considered by each institution or worker in his own locality, but that each should do his part admits of no discussion.—Oscar Dowling. *The American Journal of Public Health*, May, 1915.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3525 Pine Street, St. Louis, Mo.

SEPTEMBER, 1915

EDITORIALS

THE OSTEOPATH IS NOT A PHYSICIAN

Having assumed all the privileges of licensed physicians while being exempted by statute from the responsibilities of medical practitioners, osteopaths are now clamoring for state recognition *as physicians* so they may register under the Harrison Act and prescribe narcotics. The attorney-general's refusal to recognize osteopaths as physicians caused no surprise among thoughtful people in both medical and non-medical circles as it accorded with the general opinion that an osteopath is not a physician. It was a fair presumption that the attorney-general gave the question sufficient thought to warrant rendering an opinion that would be final. However, we learned recently that he reversed his decision, on appeal from the osteopaths, and now says they may prescribe narcotics.

As soon as a copy of this latest opinion could be obtained the secretary informed the executive committee of the facts and he was instructed to lay the matter before our attorney, Mr. Morton Jourdan, for his opinion on the subject. This was done and Mr. Jourdan, in an ably written opinion, holds that the attorney-general was right in his first opinion and erred in his second decision wherein he said osteopaths could register under the Harrison Act. Both opinions are published on another page in this issue.

The question is not settled and further developments will be published in our next issue.

GOLD MEDAL TO JACKSON COUNTY MEDICAL SOCIETY MILK COMMISSION

The Jackson County Medical Society should be gratified indeed upon the success of its Medical Milk Commission at the Panama-Pacific Exposition where the commission earned the Gold Medal, the highest award in the competitive exhibits. The commission had three entries, the La Cima farm, owned by Mr. F. J. Ban-

nister; the Overland Guernsey farm, owned by Mr. Conway Holmes, and the Longview farm, owned by Mr. R. A. Long. The farms, equipment and herds are not to be excelled by any in the country. The three exhibits of certified milk scored higher than any of the five hundred samples of milk exhibited at the exposition. The bacterial count on each sample of milk scored perfect. The actual count on La Cima milk was about 30, which is a remarkable record considering that this milk was produced June 7, one of the hottest days of the season, and shipped to California. The final judgment was made June 19, the plating being done a few days previous.

Dr. Favill, chairman of the Council on Health and Public Instruction of the American Medical Association, has signified his intention of urging upon all county societies the formation of Medical Milk Commissions. It is one of the most important and valuable public health activities of the organized medical profession. There exist now commissions in the large cities, but each community should have a commission. It is the only positive method of bringing about an ideal milk supply for infant feeding.

The American Association of Medical Milk Commission meets annually at the same place and immediately preceding the meeting of the American Medical Association. Dr. Otto Gier of Cincinnati is the secretary.

The members of the Medical Milk Commission of the Jackson County Medical Society are Drs. George C. Mosher, E. H. Schorer, Frank C. Neff, A. G. Hull, J. E. Hunt and A. W. McAlester, Jr. Any of the Missouri societies interested may obtain more detailed information by consulting Dr. Geo. C. Mosher, Bryant Bldg., Kansas City. It is to be hoped the county societies will see the immense benefit to the public and the profession through the activity of a Medical Milk Commission. THE JOURNAL at a later date will publish a detailed article upon their organization.

OBITUARY

WALTER BLACKBURN DORSETT, M.D.

Dr. Walter B. Dorsett, an ex-president of the Missouri State Medical Association and one of the most widely known physicians in Missouri, died at his home in St. Louis, July 27, after a lingering illness dating from early in the year 1914.

The State Association has lost one of its most willing, faithful and energetic members, who filled a large place in its councils and was a source of wisdom and strength in the administration of its affairs.



WALTER BLACKBURN DORSETT, M.D.
1852-1915

President Missouri State Medical Association 1899-1900

Dr. Dorsett was a native of Missouri, born in St. Louis County June 13, 1852. He received his early education in the schools of the county and in Washington University. He earned his medical degree in St. Louis Medical College, now the Washington University Medical School, by which he was graduated in 1878. He successfully passed the competitive examination for interns at the City Hospital, where he served as junior physician for one year and then was appointed dispensary physician, continuing in that position until 1887. With the training thus received he was selected to fill the position of superintendent of the Female Hospital, which appointment he accepted, and for five years he administered the affairs of that institution in a most satisfactory and praiseworthy manner. Here he acquired a large knowledge of the special branch to which he afterward devoted his energies — gynecology and obstetrics.

Early in his professional life he became interested in the medical society, and was a constant attendant at the meetings of the St. Louis medical Society and the State Medical Association, and contributed numerous papers to these bodies as well as to other societies of which he was a member. In all these societies he held positions of honor, and was ex-president of the St. Louis Medical Society, the American Association of Obstetricians and Gynecologists, and of the Missouri State Medical Association, presiding at the 1900 meeting of the last named. In 1904 he was appointed chairman of the committee of arrangements for the entertainment of the American Medical Association at St. Louis, which was generally conceded to be one of the best arranged meetings that association had ever held.

By the death of Dr. Dorsett the profession of Missouri has lost a noble, earnest, efficient and devoted member, whose memory will live long in the hearts of a host of friends and admirers.

MEMBERSHIP CHANGES, AUGUST

NEW MEMBERS

Wm. Francis Logan, Sedalia.

Wm. T. Walsh, Sedalia.

CHANGES OF ADDRESS

M. A. Broemser, Webster Groves, to Holly, Colo.

J. W. Conard, St. Joseph, to Pharr, Texas.

J. W. Epler, Sheldon, to Kearney.

Elizabeth Jamison, Loma Linda, Calif., to St. Louis, Mo.

Joseph E. Miller, Hamilton, Ill., to Davenport, Iowa.

Benj. A. Moody, Jacksonville, to Clarence.

Clarence A. Revelle, 3132 Euclid Ave., to 1130 Argyle Bldg., Kansas City.

F. T. Reylin, 1004 Ohio St., to Argyle Bldg., Kansas City.

Mathias A. Wagner, St. Louis, to Sidney, Ohio.

Emanuel T. Urban, 1458 S. Grand Ave., to 3155 Park Ave., St. Louis.

RESIGNED OR DROPPED

Wm. E. Albright, Springfield.

W. H. Cowden, Springfield.

Winfield S. Eckles, Siloam Springs.

Chas. F. Greene, Bakersfield.

Wm. L. Turner, Galloway.

Chas. Grant Harris, Festus.

C. Bond Mayfield, Gilman City.

E. D. Tucker, Gray Summit.

L. W. Wuesthoff, Elgin, Neb.

CORRESPONDENCE

ABOUT BOVININE

FREEBURG, Mo., July 7, 1915.

To the Editor:—Please inform me whether Bovinine, prepared by the Bovinine Co., Chicago, principal office, New York, depots London, Paris and Christiania, has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, and publish in the next issue of THE JOURNAL. In my opinion it is the duty of every physician to know the truth about medicines he prescribes or dispenses, and at the same time be a member of the State Medical Association and a reader of the State Medical Association Journal to find out the truth about medicines.

Thanking you and wishing the members of the State Medical Association success, I remain

Faternally,

JOSEPH L. A. BUECHLER, M.D.

[From the reports of the Council on Pharmacy and Chemistry we take the following: Bovinine, advertised as a "condensed beef juice prepared by a cold process," is a mixture of alcohol, glycerin, added sodium chlorid, and apparently some form of defibrinated blood. According to the manufacturer's literature egg albumin was used formerly, but this ingredient is said to be no longer employed. It is not a meat juice in any sense of the word. Numerous misrepresentations will be found on the label and in the literature of Bovinine, of which the following are typical:

"The blood of selected steers prepared by a cold process, furnishing a perfect food, free from insoluble elements."

"The rapidity with which Bovinine is absorbed and assimilated in the stomach . . ."

"It supplies complete nutrition to the patient."

"Bovinine contains all the elements of the animal, vegetable and mineral kingdoms for the production of new blood with great rapidity. Its principal constituents have been selected with a view to furnish the largest amount of nutriment in the most condensed form, and all the resources of modern chemical analysis have been brought to bear on this important problem."

A series of experiments carried out with dogs under anesthesia, by injecting Bovinine into the stomach, the pyloric end of which was ligated, shows that Bovinine is not readily absorbed and assimilated by the stomach as claimed. The amount of protein material found in the stomach at the end of one-half hour to one hour and a quarter was practically equal to the amount introduced by the Bovinine.

It is also represented that Bovinine is of great service in case of an irritable stomach. This is not borne out by experiment. Bovinine fed to dogs by the mouth, either alone or mixed with food, induced vomiting, which was less marked when Bovinine was given with the regular diet. An examination of the urine of these animals showed a marked diminution of the amount of indican, while the ethereal sulphates were enormously increased, both absolutely and relatively, when Bovinine was given. Experiments on rabbits have shown that Bovinine injected into the peritoneal cavity was invariably followed by large quantities of albumin in the urine, which persisted for from twenty-four to forty-eight hours. Thirty to 50 c.c. per kilo given by mouth daily causes emaciation and weakness; in some cases, irritation of the gastrointestinal canal, with death of the animal in from seven to twelve days.

The article has not been approved by the Council on Pharmacy and Chemistry of the A. M. A.—Ed.]

MISCELLANY

OSTEOPATHS AND THE ANTI-NARCOTIC LAW

When the Harrison Act was passed limiting the sale and prescribing of narcotics, the right of osteopaths to prescribe these drugs was questioned and a ruling requested from the attorney-general of Missouri by Mr. George H.

Moore, the internal revenue collector at St. Louis. Attorney-General Barker ruled at that time that osteopaths were not physicians under the law of Missouri and therefore should not be licensed by the government under the Harrison Act. An announcement to this effect was published in our May JOURNAL. On June 9 Attorney-General Barker delivered another opinion which he addressed to George A. Still of the American School of Osteopathy at Kirksville, Mo. The following is a copy of the opinion given to Still:

Jefferson City, June 9, 1915.

DR. GEO. A. STILL,
American School of Osteopathy,
Kirksville, Mo.

Dear Sir:—I beg to acknowledge receipt of your various letters regarding the right of an osteopath to prescribe or administer opiates, and I have carefully considered these letters and the law with a view to giving you a final decision.

I find that the statute relative to osteopathy provides as follows:

"The system, method or science of treating the diseases of the human body, commonly known as osteopathy, and as taught and practiced by the American School of Osteopathy at Kirksville, Mo., is hereby declared to be not a* practice of medicine and surgery within the meaning of Article I, Chapter 78, and not subject to the provisions of said article."

From an examination of your catalogue and from an investigation as to what you teach with reference to opiates and their influence on the human system, and the method of their use in the treatment of disease, I find that you study this method of treatment and that you have a course of teaching in the American School of Osteopathy and have for a great many years been prescribing the use of opiates, so that I am inclined to the belief that you are entitled to dispense and administer opiates under our statutes. This whole question, of course, depends on whether or not there is such a course of study in your school, and I find from your catalogue that there is. My first impression was that you had no authority to prescribe or administer opiates, but if you have such a course of teaching in your school as your catalogue shows you have, I believe that you may prescribe and administer opiates, and I will send a copy of this opinion to the internal revenue collector at St. Louis.

Trusting that your inquiry has been fully answered, I am

Very truly yours,
(Signed) JOHN T. BARKER,
Attorney-General.

This opinion was submitted to our attorney, Mr. Morton Jourdan, for the expression of his views. He rendered the following opinion:

St. Louis, July 26, 1915.

DR. E. J. GOODWIN,
Secretary Missouri State Medical Association,
3525 Pine Street, City.

My Dear Doctor:—I have your communication of July 16, in which you ask my opinion as to the right of osteopaths to register under the anti-narcotic law, a statute passed by the federal government and known as the Harrison Act. In this communication

* [The statute reads "the," not "a."—Ed.]

you state that Attorney-General Barker has heretofore given an opinion that osteopaths were not practitioners under the law and could not properly be licensed by the collector of the internal revenue to prescribe and dispense the narcotics listed in the federal statute.

You also state that later, on June 9, 1915, Attorney-General Barker gave another and different opinion to George A. Still of the American School of Osteopathy at Kirksville, and, in your letter you copy that opinion, in which Attorney-General Barker reaches the conclusion that osteopaths are practitioners and physicians under the law and therefore may be licensed by the collector of the internal revenue to prescribe the narcotics listed in the Harrison Act.

After a thorough investigation of the question, I have reached the conclusion that Attorney-General Barker in the first or former opinion given to Collector Moore, as stated by you, correctly stated the law and I cannot concur in the conclusions reached by Attorney-General Barker in his communication of June 9, 1915, to George A. Still of the American School of Osteopathy.

The Harrison Act refers repeatedly and only to "physician, dentist or veterinary surgeon"; not only is this limitation true in the body of the act, but, in the regulations promulgated by the commissioner of internal revenue and approved by the secretary of the treasury, the same limitation is carried in the exact language of the act. So it is evident from the federal statute that the United States government intended that only physicians, dentists and veterinary surgeons should be permitted to dispense or prescribe narcotics listed in the law, and that only those persons should be entitled to registration. And, unless there be something in the laws of Missouri authorizing the conclusion that under the terms "physician, dentist or veterinary surgeon" those persons practicing osteopathy are included, then, they are not entitled under the Harrison Act either to prescribe or dispense narcotics listed in that act, or to registration under its provisions.

There is nothing in the Missouri statute which warrants the conclusion that the legislature, or law making body, intended to include one practicing osteopathy under the general term or definition of physician, dentist or veterinary surgeon. I assume there will be no claim that the osteopath comes within the terms dentist or veterinary surgeon. It is probably contended that the osteopath is included in the term physician, but this does not find warrant either in the Missouri statute or in the legal definition or construction of the word physician.

Chapter 78 of the Revised Statutes 1909 relates exclusively to medicine, surgery and midwifery. The first article of this chapter relates to medicine and surgery and the second to midwifery. That the osteopath is not included in either of these articles is evident from the language of these articles; the first article refers exclusively to physicians who are practicing medicine and surgery, and the legislature, in a separate volume and chapter, defines the osteopath; and, in Section 10231, Revised Statutes, 1909, expressly declares that the system, method or science of treating diseases of the human body, commonly known as osteopathy, as taught and practiced by the American School of Osteopathy of Kirksville, Mo., is hereby declared *not to be the practice of medicine and surgery within the meaning of Article 1 of Chapter 78, above referred to, and not subject to the provisions of said article; and the mere fact that in the school of osteopathy at Kirksville there is*

taught the use of opiates and their influence on the human system and the method of their use, does not make one practicing osteopathy a physician within the meaning of Chapter 78, Article 1, supra.

It might not be amiss to call attention to some of the definitions of our courts on the terms physician and osteopath, as establishing the trend of judicial decisions and as giving or denying warrant for the conclusions reached by Attorney-General Barker:

"A physician is defined to be one who prescribes or administers medicine for or in any manner treats diseases or wounds for pay." *Richardson v. State*, 47 Ark. 562.

"A physician is defined to be a person who has received the degree of doctor of medicine and one lawfully engaged in the practice of medicine." *Harrison v. State*, 102 Ala. 170.

"A physician is one qualified and authorized to prescribe remedies for diseases; he gives prescriptions for medical purposes." *Prewitt v. City of Denver*, 11 Colo. App. 70.

"A physician is one who professes or practices medicine and such is the general acceptance of the term." *Whitlock v. Commonwealth*, 89 Va. 337.

"A physician is, in common parlance, one qualified in both medicine and surgery." *Castner v. Sliker*, 33 N. J. Law 507.

"A physician is one who practices the art of healing diseases and of preserving health, a prescriber of remedies for sickness and disease." *State v. Beck*, 21 R. I. 288.

"A physician as defined by Webster, is one authorized to prescribe remedies for and treat diseases, a doctor of medicine." *State v. McMinn*, 118 N. C. 1259.

"The term physician in the statutes, in reference to the practice of medicine, refers to those exercising the calling of treating the sick by medical agencies as commonly practiced through the state at the time the act was passed; the term does not include an osteopath, as osteopathy teaches neither therapeutics, materia medica, surgery nor bacteriology, but rests entirely on manipulation of the body for the cure of disease." *Neison v. State Board of Health*, 22 Ky. Law Rep. 438; 108 Ky. 769; 58 L. R. A. 383.

"Osteopathy is defined as a method of treating diseases of the human body without the use of drugs, by means of manipulation applied to the various nerve centers." *Parks v. State*, 159 Ind. 211.

"The practice of osteopathy consists principally in rubbing, pulling and kneading with the hands and fingers certain portions of the body, and flexing and manipulating the limbs of those afflicted with disease, the object of such treatment being to remove the cause or causes of the trouble." *Little v. State*, 60 Neb. 749; *Nelson v. State Board of Health*, 108 Ky. 769; *State v. Liffing*, 61 Ohio 39; *Commonwealth v. Pierce*, 10 Pa. Dist. 335.

To show the further intended divorcement of the osteopath from the physician and surgeon, the legislature, Section 10235, imposed on the osteopath certain duties with reference to the reporting of contagious diseases and certifying the births and deaths, and of matters pertaining to the public health, all of which duties had theretofore been imposed on physicians and surgeons by the general statute relating to the public health, and, if the osteopath was to be included within the term physician, then there would have been no necessity for this special statute with reference to the practice of osteopathy.

The same is true, as evidenced by Section 10237, with reference to penalties, and, from reading the two chapters referred to, it is evident that the legislature of Missouri never intended that the osteopath should come within the term physician as prescribed in the general law. It certainly will not be contended that an osteopathic physician would be permitted to

write prescriptions for the sale of intoxicating liquors under the general statute having reference to that matter, or, that a prescription written by such will be a defense under the criminal law for the sale of intoxicating liquors.

I have therefore reached the conclusion, in view of these statutory provisions and the definitions above referred to, that under the Harrison Act osteopaths are not entitled to registration.

Yours very truly,

(Signed) MORTON JOURDAN.

Mr. Jourdan's opinion was submitted to Attorney-General Barker and in a letter written from another state he says he is on his vacation but has asked his office to look up the subject and when he returns he will give the matter closer scrutiny and render a final opinion.

KANSAS ANTI-FEE-SPLITTING BILL PASSED

We print below the full text of the bill against fee-splitting which was introduced in the Senate by Troutman, and was passed by both houses, and as soon as it has been signed by the governor will become a law.

Be it enacted by the legislature of the state of Kansas:

Sec. 1.—It shall be unlawful for any physician or surgeon to pay or offer to pay any other physician or surgeon or to any person in his behalf, either directly or indirectly, any fee, money or thing of value of any kind in consideration of such other physician's or surgeon's bringing to him, or agreeing or promising to bring to him, for treatment, any patient, assisting to treat or operate upon any such patient so sent, or advising or agreeing, promising or proposing to advise any patient to consult him, or assisting to treat or operate upon any patient so advised; and it shall be unlawful for any physician or surgeon who shall have sent or shall propose to send to another physician or surgeon any patient, or who shall have advised or promised or proposed to advise any patient or patients to go or to consult such other physician or surgeon, to demand, collect or receive any fee, money or thing of value of any kind, either directly or indirectly, therefor, or for assisting to treat or operate upon any patient so sent or advised; provided, however, that it shall not be unlawful for such physicians or surgeons to pay or receive such fee, money or value where full disclosure as to the amount to be paid and received shall have been made to the patient or person liable for the fees to be charged for the treatment of such patient before such patient or person shall have paid or agreed upon the amount of the fees to be paid by them.

Sec. 2.—Any person who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a fine of not more than \$500 and by imprisonment in the county jail for not exceeding six months, or both, and such conviction shall operate as an annulment of the license of such convicted person to practice as a physician and surgeon in this state.

Sec. 3.—It shall be unlawful for any person, firm or corporation, owning, operating or controlling any hospital in this state, to pay directly or indirectly to any physician or surgeon any commission or consideration of any kind whatever for advising any patient to go to such hospital for treatment or opera-

tion or for bringing any patient to such hospital for such purpose.

Sec. 4.—It shall be unlawful for any physician, surgeon or hospital to demand or collect any fees or charges from any patient in any case in which there shall have been a violation of this act.

Sec. 5.—All acts and parts of acts in conflict herewith are hereby repealed.

Sec. 6.—This act shall take effect and be in force from and after its publication in the statute book.—*Jour. of the Kan. Med. Soc.*

THE DOCTOR—FROM A LAYMAN'S STANDPOINT *

Sometimes we call him the village doctor. In endearing terms we speak of him as the family doctor. Grand old man.

We hear his footstep at the door and feel better. He comes into the room where we are lying sick in bed. He lays his soft, cool hand on our burning forehead and smiles.

"Oh, you are doing nicely," he says. Then we determine to get well, for there is a power in suggestion.

Turning to our wife, he asks: "You are keeping up the same treatment?" "Yes," she replies. "All right. I'll call again in the morning. Good bye," and he bows himself out. Now, he does this if we haven't paid him a cent for five years. He is too much of a prince to think of dollars and cents. His mind is on the art of healing, for he is a doctor.

We find the doctor in earliest history. In Egypt he was a chemist and embalmed the dead. What he did for the living I don't know. In China he ground bugs and administered dried worms and insects to his patients. In other countries he indulged in charms and voodooed his victims. In the wilds the medicine man wields power over the tribes by crude magic. In this country, in early times, there was virtue in a black cat's blood, and a sack of asafoetida hung around the neck would scare away any sort of disease. Bleeding was the first aid, and many a poor fellow went to his grave short of blood. The doctor of today is different. We have with us now

The Christian Science Doctor,
The Absent Treatment Doctor,
The Traveling Doctor,
The United Doctors,
Doctors of Divinity to cure sick souls,
The Allopath Doctor,
The Faith Doctor,
The Osteopath Doctor,
The Bone Setter Doctor,
The Corn Doctor,
The Chiropractor Doctor,
The Tooth Doctor,
The Homeopath Doctor,
The Community Doctor,
The Horse Doctor.

A doctor is expected by the public to be learned in his profession, both by education and practice. He must be immaculate in person and dress. His hands must be clean, no dirt lurking under his finger nails. He must be moral and upright in his life, because he is the trusted confidant of the family. He must be honorable, truthful, trustworthy, that he may guard the secrets of the family as he would his own good name. The family expects that of him. He must be temperate, absolutely sober at all times. We consider a good doctor the most influential citizen in the community, the greatest factor in its welfare. He not

* Read before the Ralls County Medical Society.

only cures you when you are ill, but is always working out plans to prevent disease. He made the Panama canal possible by removing disease germs from its zone. The American doctor did this. He defeated yellow fever by removing the cause. He has reduced smallpox to the lowest common denominator, extracting its sting by vaccination and relegating it to the class of Cuban itch.

In the last few years the art of healing and the prevention of disease has progressed wonderfully, and the strides in surgery have astonished the world.

By medicine life may be prolonged, yet death will seize the doctor too.

The trials of a doctor are many. Roused out at midnight to ride ten miles over a dark and lonesome road, cold and cheerless, amidst rain or snow, the biting wind chilling him. That's no snap.

Then sometimes it is said of him that he let a patient die through neglect or lack of knowledge on his part of the disease. This is "the most unkindest cut of all."

Long live the family doctor. May his shadow never grow less.

THE DOCTOR'S HARD JOB

To the Star: We have just had a very bad sickness in our family. The doctor made a mistake in the nature of the disease, and before he got right his patient was nearly dead. Fortunately the patient recovered. But the case has shaken my faith in doctors. Isn't medicine all guess work? J. C.

J. C. doesn't tell the nature of the sickness that fooled the doctor, so the apportionment of blame is out of the question. It is quite possible that the doctor wasn't competent, for incompetent men get into medicine, just as they do into all other professions. But there is another side to the incident.

From the very nature of the practice of medicine there has got to be what J. C. calls a good deal of "guess work" in it. The human body is a very intricate and delicate machine. It is more. It is a very delicate and intricate machine which it is exceedingly hard to get into.

The automobile is a comparatively simple machine. All that is necessary to keep it running is to get a proper mixture of gas and air into its cylinders, with an electric spark at the proper moment to explode the mixture. But if J. C. has had any experience with automobiles, or if he has talked with any mechanic or other person who has had experience, he must know that often it is the hardest thing in the world to diagnose the trouble with the motor from the symptoms. The same symptoms of trouble may come from half a dozen different causes.

A man who had difficulty in starting his car told his troubles to the head of a large repair shop, and asked what was the matter. "I can tell you a lot better after I get into the engine," was the reply. "Maybe there is dirt in the carburetor. Maybe you have a sooty spark plug. Maybe there is a short circuit in the ignition system. Maybe there is a loose wire. I can't tell until I see."

The doctor is often in the position of this mechanic—except that he can't get into the machine to see what is the matter. He has to act on symptoms so indefinite that the mechanic would feel he had no basis to go on. If he could lift the hood of the human machine and inspect the machinery he would feel much more confident. Much advance has been made in recent years in diagnosis of human ailments.

Various tests have been perfected, so that the doctor in many cases really has something to go on. He has tests, for instance, for typhoid fever and diphtheria and tuberculosis and various other diseases. He takes the blood pressure of the patient, or has a blood count made, or finds from a bacteriological examination whether a certain suspected germ is present. But for all that, the present stage of medical science is still unsatisfactory. How unsatisfactory the best doctors are keenly aware.

Still, it is the greatest agency in the world for relieving human suffering. There is no more useful citizen than a well trained, honest, intelligent doctor. —*Kansas City Star.*

SOME COMMON MISTAKES IN THE INTERPRETATION OF LABORATORY REPORTS

FRANZ H. HARMS, M.D.

Pathologist of the National Pathological Laboratory

CHICAGO

There is a tendency to diagnose a nephritis *ipso facto* when the laboratory findings show the presence of albumin, and the severity of the condition is gauged by the percentage of albumin present. The object of this article is to emphasize the errors in these hasty conclusions.

It is necessary at the outset to exclude false or accidental albuminuria. This is due to admixture of the albuminous exudate, blood or lymph through the urinary tract. This exclusion is made by examination microscopically of the sediment and also by consideration of the clinical picture. After a false or accidental albuminuria has been excluded, there are still the renal albuminurias without anatomic lesions of the kidneys which must be ruled out before a diagnosis of nephritis can be made. These are classified by Saxe as: (1) functional albuminuria: (a) after severe muscular exertion, (b) after eating an excess of proteid food, (c) following nervous shock and other vasomotor changes, (d) during labor, (e) in nervous children; (2) essential albuminuria: (a) cyclic, (b) orthostatic or postural, (c) albuminuria minima (Leroche and Talamond after infections or debilitating diseases); (3) traumatic albuminuria, slight injury to kidney, massage of kidney, movable kidney, injury to brain, apoplexy; (4) hematogenous albuminuria, such as severe anemia, purpura, scurvy, cholemia, diabetes, leukemia, severe wasting diseases and after anesthetics; (5) nervous albuminuria, insanity, mental depression, psychoses, paralysis of certain parts of brain, epilepsy, delirium tremens; (6) albuminuria of renal stasis in conditions of passive congestion; cardiac, pulmonary and hepatic diseases in the presence of mechanical pressure (stones, tumors) may occur with casts and usually a few red blood cells; (7) toxic albuminuria, irritants (cantharides turpentine), poisoning with arsenic, mercury, phosphorus, lead, antimony, alcohol, mineral acids, febrile diseases.

In many of these functional disturbances casts may be found.

Only when these are ruled out and when the urine shows albumin and casts repeatedly and there are clinical symptoms as well, can a positive diagnosis of nephritis be made.

The amount of albumin varies usually with the type of disease. In acute cases it is large in amount, becoming variable as it becomes chronic and small in amount in severe cases of contracted kidney. Exceptionally, however, the amount may be large when there is no kidney lesion at all, as in passive congestion, and on the other hand, albumin may be entirely absent at times in interstitial nephritis.

SOCIETY PROCEEDINGS

ADAIR COUNTY MEDICAL SOCIETY

The Adair County Medical Society held its regular monthly meeting at Kirksville, August 5, in the offices of Drs. Martin and Parrish, with the following members present: Drs. Martin, A. W. and B. B. Parrish, E. C. Callison, J. S. Gashwiler, J. F. Dodson and E. S. Quinn.

The minutes of the previous meeting were read and approved.

The scientific program for the evening consisted of a paper by Dr. M. R. Shaw on "Oral Hygiene." The doctor's paper demonstrated careful study and thought and was a fine presentation of the subject. Discussion of the paper was opened by Dr. E. S. Quinn followed by all the members present. A vote of thanks was tendered by the society to Dr. Shaw for his excellent paper and he was invited to come again.

No further business coming before the society, adjournment was taken to first Thursday in September, when we meet in the office of Dr. E. C. Callison, Kirksville.

BERT B. PARRISH, M.D., Reporter.

BATES COUNTY MEDICAL SOCIETY

Bates County Medical Society met in Butler, July 29, at 2 p. m. The meeting was called to order by the president and the minutes of the May meeting were read and approved. The June meeting was postponed on account of high water.

Dr. P. T. Bohan of Kansas City was present and held a clinic lasting two hours, during which time the cases were fully examined and discussed.

Dr. T. C. Orr of Kansas City was with us and gave an excellent paper on "Emergency Surgery of the Abdomen," with a history of several cases, which were fully discussed. A vote of thanks was extended to the visiting physicians. They are good men and we hope they will come again.

Members present were Drs. Newlon, Chastain, Lockwood, Boulware, Christy, Foster, Lusk of Butler; Dr. Robinson of Adrain; Dr. Miller of Ulrich; Drs. E. J. and Wm. H. Allen of Rich Hill. As the weather was threatening several of our members were not present who otherwise would have been here. The same cause we presume kept our Cass County brothers from attending as they wrote us they were coming.

C. A. LUSK, M.D., Secretary.

BENTON COUNTY MEDICAL SOCIETY

The regular meeting of the Benton County Medical Society was held in Lincoln, August 12, in the Bank Parlors. The president, Dr. J. A. Logan of Fairfield, and vice-president, Dr. H. G. Savage of Warsaw, being absent, Dr. Marion Dillon was chosen president pro tem., calling the meeting to order at 11:15 a. m., our train from the south being an hour and a half late.

The reading of the minutes of the last meeting followed with the transaction of other business.

Dr. W. G. Jones had prepared a paper to read, but as the time was limited and as we had as our honorary guests, Dr. E. J. Goodwin of St. Louis, state secretary, and Dr. W. J. Ferguson of Sedalia, councilor for the seventeenth district, the paper was postponed for a later reading, by request of the author.

Dr. Ferguson gave us a very interesting talk on the welfare of the society, with helpful hints as to the best method of healthy growth. Dr. Goodwin followed with a very instructive and highly educating address in behalf of the State Journal and the benefits

to be derived therefrom by every member of the Association. He followed with a plea for every member to live up to the Golden Rule, and in thus doing not only add to our own strength and interests, but to the uplifting influence that we may have in creating a stronger bond of brotherly union. He also urged that every member should so conduct himself as to occupy a position of esteem and influence in his individual community. The strength of the organization should be brought to bear on our respective representatives and senators and in this way contend for the protection of our professional rights and the safety of the public health.

Many questions were asked by the members present and answered by our visiting authorities which gave us a better understanding of many points of vital interest to every member of the profession.

Dr. Windell's case was referred to the committee of investigation, to be reported at the next meeting. Dr. N. A. Schwald of Cole Camp made application for membership, which was also referred to the committee.

Drs. T. S. Reeser, Cole Camp; W. G. Jones, Lincoln, and J. R. Smith, Warsaw, were appointed a committee for the revising of the fee bill to be adopted at the next meeting, known as the "Minimum Fee Bill."

Dr. S. O. Stratton of Lincoln made application for reinstatement in the society, which was granted upon payment of one year's arrearages and dues for the current year.

As members of the Benton County Medical Society we feel highly honored by the presence of both Dr. Goodwin and Dr. Ferguson, and complimented on the praise that each bestowed on our society and the work that it is doing. Their presence at our meeting was as a ray of sunshine cast along our pathway when the clouds are rifted in a dark, cloudy spell. We wish to thank each for the more than ordinary effort and interest they exerted to be present and give us a helping hand.

Those present were: Drs. T. S. Reeser and N. A. Schwald of Cole Camp; Dr. B. F. Windell of Ionia; Drs. E. L. Rhodes, W. G. Jones, S. O. Stratton and O. L. Cuddy of Lincoln; Dr. E. J. Goodwin of St. Louis and Dr. W. J. Ferguson of Sedalia (visiting) and Drs. Marion Dillon and J. R. Smith of Warsaw.

The meeting closed, the time completely exhausted up to a hurried rush for the train by the south attendants, to be called by order of the president, who, by the way, expressed great regret (over the telephone) that he could not be present.

The next meeting will be held in Warsaw in October, with a paper from Dr. T. S. Reeser of Cole camp, and the reading of the one Dr. Jones prepared for Lincoln.

J. R. SMITH, M. D., Secretary.

CALLAWAY COUNTY MEDICAL SOCIETY

The Callaway County Medical Society met in Fulton, August 12, at the Palace Hotel, with the president, Dr. Crews, in the chair.

There were present the following members: Drs. Crews, Owen, Williamson, Courshon, Major and Yates. The following visitors were the guests of the society: Dr. E. G. Blair, Kansas City; Dr. J. S. Moore, Mexico; Dr. F. G. Nifong and A. W. McAlester, Columbia; Drs. G. E. Muns, W. E. Muns and David Nowlin, Montgomery City, and Dr. J. E. Parmer, Mokane.

After a few minutes' social intercourse and dinner at the hotel, the scientific program was taken up.

Dr. Moore of Mexico reported an interesting case of fibroid tumors of uterus complicated by pregnancy. The case had gone to about full term, was treated by cesarean section and hysterectomy with recovery of mother and child.

Dr. E. G. Blair of Kansas City gave the society an interesting and scientific address on goiter, giving

classification of the clinical and pathologic conditions. He discussed the medicinal and operative treatments and presented specimens and photographs of cases treated by him, illustrating types and stages of the disease. This was discussed by most of the physicians present.

Dr. Nifong of Columbia gave the society an instructive address on abdominal pain and its significance. He emphasized the importance of not obscuring the chances of a correct diagnosis by the too free use of opiates before ascertaining the cause of the condition. This was freely discussed by several of the physicians.

Adjournment to regular meeting in September.
M. YATES, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

Cape Girardeau County Medical Society held its regular scheduled meeting August 9 with the following members present: Drs. Cunningham, Hope, Howard, Williams and Yount.

Application of Dr. R. F. Henderson was officially passed on by the society and he was granted full membership. The secretary presented receipt showing his dues had been accepted.

Dr. H. L. Cunningham read a paper on "Arthritis Deformans." He went into the etiologic factors and prophylactic treatment thoroughly and a good discussion followed.

After attending to routine business the society adjourned.

E. H. G. WILSON, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville, August 12, at 2 p. m. The following members were present: Drs. W. F. Chaffin, H. S. Crawford, A. R. Elder, M. P. Overholser, R. D. Ramey and J. S. Triplett. A heavy rain in the forenoon made the roads very muddy and several of the out-of-town physicians were unable to attend, which was very much regretted as the two papers read were of unusual merit and the meeting was very interesting and profitable.

Dr. W. F. Chaffin read a paper on "Suggestion." He dwelt not only on the therapeutic value of good suggestions but on the disastrous effect of bad suggestions.

Dr. J. S. Triplett read a paper on "Cathartics and Acute Inflammation of the Abdomen." He mentioned the abuse of cathartics in all cases of acute inflammations of the abdomen, and recommended measures to allay any peristalsis until the inflammation had subsided and nature had protected the system.

The question of getting out a better attendance at the regular meeting was discussed and the secretary was instructed to write the secretary of the State Association and the A. M. A. relative to getting out members who seem indifferent and never attend the meeting or take any active part in society work, and yet inclined to profit by their membership in the County and State Medical Societies. Unfortunately Cass County has a few members who never attend the society meetings and yet they could do so conveniently.
H. C. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met at the Snapp Hotel in Excelsior Springs, Monday evening, July 26. The attendance was encouraging, nine members being present, with two visitors.

A motion to adjourn the August meeting was overwhelmingly defeated, which means that all the boys want to go in August.

One member was dropped from the roll on account of his being temporarily in jail on a criminal charge. It's impossible to serve both God and Mammon.

One of the best papers of the year was read by Dr. Edwin Lee Miller of Kansas City, on "Cause, Differentiation and Treatment of Peptic Ulcer." The doctor quoted many eminent authorities to sustain his findings, that the streptococcus is the causative factor. The foci of infection may be remote, as in the ear, teeth, tonsils, etc., and the cocci are transported, probably through the blood, to the stomach and duodenum. They seem to act by selection on those localities. The first step in the lesion is an infarct, which is more or less rapidly followed by necrosis. The deep, painless, perforating ulcer is difficult of diagnosis, and often rapidly fatal. The superficial forms are easily diagnosed "over the telephone," history being the predominating thing in forming an opinion. Symptoms: regularly recurring pain after meals, intervals of apparent recovery, relief by alkalies or taking food. Treatment: medical in all early stages; surgical only in those cases where medical treatment has failed. Surgical results are brilliant in the vast majority of cases. The doctor spoke of the possible malignant termination in such cases.

Dr. W. S. Wallace discussed Dr. Miller's paper, laying emphasis on the value of vaccines in the treatment. A rambling discussion followed, and a vote of thanks was tendered Dr. Miller for so ably presenting the subject.

Dr. W. J. James presided at this meeting, the president and vice-president both being absent.

Let us reiterate, these programs are worth while. No progressive member can afford to miss the meetings.
J. J. GAINES, M.D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY

Shelby County Medical Society met in the club rooms at Shelbyna, July 20.

Two papers were to have been read but the essayists were absent and the meeting was given over to reporting clinical cases.

The following cases were reported and discussed:

Dr. A. M. Wood, abdominal tumor in child, seen by St. Louis men, Roentgen rayed, etc.; no definite diagnosis; to be kept under observation.

Also, Dr. Wood reported tumor in mediastinum that had been under observation at the May clinic.

Dr. Moody reported a case of sarcoma of the kidney in a child of 4 years.

Dr. Smith reported the removal of a large fibroid from pregnant uterus and the condition of case to date.

Dr. Carson reported a case of chronic nephritis treated with thyroid extract along lines laid down by Percy of Galesburg in *The Journal of the American Medical Association* the past year.

Dr. B. E. Moody returns to Shelby County and again joins us.

Despite the disappointment of lack of papers, the meeting proved most interesting to all present.

Members present were Drs. Ferguson, Archer, Carson, Salyer, Wood, Roy, Daniels, Moody, Smith, Furnish, Vaughn and Battersby.

Dr. W. M. Bayliss of Clarence visited with us.
R. S. BATTERSBY, M.D., Secretary.

VERNON COUNTY MEDICAL SOCIETY

The Vernon County Medical Society met in Nevada, Mo., Thursday, June 10, in the I. O. O. F. Hall, at 10 o'clock a. m., the president, Dr. E. A. Dulin, in the chair.

Members present were Drs. Bohannon, Craig, Davis, James, Walker, Robinson, Callaway, Lancaster, Williams, Yater, Wilson, Dulin and Hornback.

Visitors present were Drs. P. T. Bohan, John S. Weaver, O. F. Faires, Maclay Lyon and H. E. Pearse, Kansas City, and Drs. W. R. Summers, J. W. Dawson, S. D. Reynolds and Stephens of State Hospital No. 3, Nevada.

Dr. P. T. Bohan of Kansas City read a paper on "Rheumatism."

Drs. Petty, Craig and Walker opened a ten minutes' discussion on treatment of incipient tuberculosis cases.

Dr. Maclay Lyon of Kansas City read a paper on "Diagnosis of Gastric Malignancy."

Dr. John S. Weaver of Kansas City read a paper on "Some Factors in Removal of Tonsils."

Drs. Dawson and Reynolds of State Hospital No. 3 demonstrated a case of Argyll Robertson pupil and discussed its significance.

Dr. H. E. Pearse of Kansas City read a paper on "Gastric Ulcer, Its Treatment, Medical and Surgical."

Dr. Pearse did a double hernia operation, also removed large fatty tumor from a lady's back under local anesthesia.

Dr. Weaver did a tonsilectomy.

Dr. O. P. Faires of Kansas City demonstrated the methyl-chlorid-ether anesthesia by drop method on two cases.

On motion the society adjourned.

J. T. HORNBACK, M.D., Secretary.

WRIGHT COUNTY MEDICAL SOCIETY

The Wright County Medical Society met at Norwood, Mo., August 5 at 1 p. m.

The following members were present: Drs. Wittwer, Daugherty, Ames and Butzke of Mountain Grove; Drs. Rogers and Fuson of Mansfield; Drs. Ryan, Vannoy and Little of Norwood, and Dr. Norman of Ava. This was the first visit to the society by Dr. Norman. He made a great effort to get to the society and had a long trip. He gave us a good talk and said the next time he would have a larger crowd from his territory. The doctors from Mountain Grove hired an auto and all enjoyed the trip over the Ozark trail road.

President Rogers called the meeting to order. He made a short speech and as usual mentioned some facts in ethics whereby the doctors could help each other; also, by teaching the laity to recognize that the doctors were trying to do the most good for them rather than trying to fight each other.

The minutes of the last meeting were approved as read.

Dr. J. A. Fuson of Mansfield read a very interesting paper entitled "Placenta Praevia." All the members present discussed this subject thoroughly, giving some of their own experiences in these cases.

Dr. E. J. Butzke of Mountain Grove read a paper entitled "What Should Be the Attitude of a Doctor Toward a Fellow Practitioner." This subject seemed to be of great interest and most of the doctors opened their hearts and made some very good confessions. They all felt better when they got through.

Dr. Edw. Wittwer of Mountain Grove, delegate to the state medical meeting at St. Joseph, made a short report. He suggested that the nominating committee of the State Medical Association ought to be chosen one year in advance. This would give the committee a chance to investigate all candidates and avoid trouble.

Dr. A. C. Ames placed the latter suggestion in the form of a motion which was seconded by Dr. J. A. Fuson. The motion carried.

The secretary suggested that the members investigate more of the advertisements in THE JOURNAL.

and that a postal card be sent to the advertisers in regard to their products.

There being no further business the meeting was adjourned until the next annual meeting to be held at Mountain Grove, the first Thursday in November.

E. J. BUTZKE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

PROPAGANDA FOR REFORM

ALFATONE.—The Council on Pharmacy and Chemistry finds that Alfatone (The Norwich Pharmacal Co.) is a worthless alcoholic cordial and therefore ineligible for admission to New and Nonofficial Remedies. The council points out that alfalfa is good cattle feed and that only nostrum exploiters have suggested its use as a medicine for human beings. Based on the claimed composition, each maximum dose (3 fluidrams) should represent 45 grains of alfalfa, 1 grain of taraxacum, $\frac{3}{4}$ grain of gentian, 1/100 grain of berberin hydrochloride and 27 minims of alcohol. Since the bitter drugs are present in such small amounts that the preparation is almost devoid of bitterness and as the medicinal value of alfalfa is practically nil it is evident that whatever action Alfatonone may have is due to the stimulant effects of the alcohol (*Jour. A. M. A.*, Aug. 7, 1915, p. 548).

URICOL.—The Council on Pharmacy and Chemistry reports that Uricol (Uricol Chemical Co.) is a mixture of well-known drugs, marketed with false claims as to therapeutic action, with misleading and meaningless statements as to composition and under a name which invites uncritical prescribing. Examination in the A. M. A. Chemical Laboratory showed Uricol to be a solution containing a large amount of sodium phosphate (64.20 gm. in 100 c.c.) with small amounts of lithium, nitrate, citric acid and glycerin, with probably some vegetable extract (*Jour. A. M. A.*, Aug. 14, 1915, p. 638).

DUODENIN, ARMOUR.—Duodenin, Armour (Armour & Company) is said to be prepared from the glandular or epithelial layer and mucous lining of the hog duodenum and to contain the maximum amount of secretin and enterokinase in stable form. The Council on Pharmacy and Chemistry held that there is no evidence for the administration of secretin or enterokinase and that, so far as the available evidence goes, these substances are inactive when administered. The Council voted that Duodenin (Armour) be not further considered until evidence is submitted to show that there are conditions in which secretin or enterokinase are absent and that these substances may be utilized by the organism if administered (*Jour. A. M. A.*, Aug. 14, 1915, p. 639).

JUBOL.—Geo. J. Wallau, Inc., the U. S. agent of the French proprietary Jubol advises physicians to "jubilise" their intestines with "Jubol" if they suffer from constipation, hemorrhoids, and a long list of other conditions. The Council on Pharmacy and Chemistry held Jubol ineligible for New and Nonofficial Remedies because the composition is not declared; because grossly incorrect and unwarranted claims are made for its therapeutic action; because the name does not indicate the alleged ingredients and because so much of the composition as is declared indicates an unscientific mixture (*Jour. A. M. A.*, Aug. 14, 1915, p. 629).

URODONAL.—Urodonal is a French proprietary sold in the United States by Geo. J. Wallau, Inc., and is said to contain a chemical combination of lysidin, sidonal and hexamethylenamine. The Council on Pharmacy and Chemistry finds that Urodonal is ineligible for New and Nonofficial Remedies because

it is marketed under inconsistent statements of composition and with exaggerated therapeutic claims; because the name is nondescriptive; the combination is unscientific and because it is marketed in patent medicine style (*Jour. A. M. A.*, Aug. 14, 1915, p. 639).

OIL-OF-SALT.—According to C. A. Mosso all diseases are "systemic poisons" in the body and his "Oil-of-Salt" destroys all poisons and hence cures all diseases. It is exploited chiefly to factory foremen and superintendents as a first aid treatment. From an examination in the A. M. A. Chemical Laboratory it was concluded that "Oil-of-Salt" is a mixture consisting of about $\frac{2}{3}$ linseed oil with $\frac{1}{3}$ of a mixture of essential oils, including turpentine, camphor and sassafras, containing a little chloride and free hydrochloric acid. It appears that "Oil-of-Salt" is also exploited under the name "First Aid Treatment" by the Pan-Alert Laboratories, Chicago (*Jour. A. M. A.*, Aug. 14, 1915, p. 640).

MIXED VACCINES.—There is no rational basis for the use of mixed vaccines. So far as infectious diseases, the etiology of which is known, are concerned they are caused by a single, specific organism as for instance in diphtheria, tetanus, meningitis, typhoid fever. The mere presence of a multiplicity of organisms in cultures taken from an infected region is no sign that the symptoms are due to all the organisms. The use of the stock mixed vaccines of commerce is irrational because it is based on the conception that infections are caused by more than one kind of micro-organism; it is harmful because it encourages superficial examination, slipshod diagnosis and routine treatment without individualization; it is unnecessary because, when the physician desires to use more than one vaccine, he can inject them separately or mix them at the time of injection (*Jour. A. M. A.*, Aug. 21, 1915, p. 719).

FISHER REMEDY.—According to the A. M. A. Chemical Laboratory, Fisher Remedy, a nostrum sold for the treatment of syphilis (five capsules cost \$25), is composed of mercury sub sulphate (Turpeth mineral) and mercury with chalk (*Jour. A. M. A.*, Aug. 21, 1915, p. 733).

PERTUSSIS VACCINE.—The New York Department of Health appeals to the physicians of New York for a more extended use of vaccine in the treatment of pertussis. Most favorable results have been obtained with the prophylactic use of the vaccine (*Jour. A. M. A.*, Aug. 21, 1915, p. 724).

FORMAMINT.—Formamint are throat tablets said to contain a compound of formaldehyd and milk sugar. In the United States it is advertised to physicians, while in England the public is asked to use it for affections of many kinds. The Council on Pharmacy and Chemistry reports that false statements are made in regard to the composition of Formamint; grossly unwarranted claims are made for its therapeutic properties, and therefore its exploitation to the public is a public danger. The Council published the account of the exhaustive bacteriologic examination to call attention to the evils connected with Formamint and to the inefficiency of all methods of sterilizing the throat (*Jour. A. M. A.*, Aug. 28, 1915, p. 816).

BOOK REVIEWS

SURGERY OF THE BLOOD VESSELS. J. Shelton Horsley, M.D., F.A.C.S., Surgeon in Charge, St. Elizabeth's Hospital, Richmond, Va. Founder and Fellow of American College of Surgeons; ex-President Richmond Academy of Medicine and Surgery; member Southern Surgical and Gynecological Association, etc. C. V. Mosby Co., 1915, \$4.00.

Horsley has not increased either our knowledge or technic of blood vessel surgery in any notable degree, but he has added a monograph in this recent field of surgery that is distinctly interesting. This, too, in spite of the fact that his citations from the literature and his survey of the work of others are hardly sufficiently comprehensive to make the volume essential to the expert; and it is surely too comprehensive for the need of the general practitioner. In style it is gently discursive; and, with an increased employment of the literature, seems a lineal descendant of the writings of the leisurely Southern professional man in the halcyon antebellum days.

The difficulty in classification, as noted above, would suggest a difficulty in formulating an adequate review. As the book itself appears to have been written to stimulate the interest of the general practitioner, a critical analysis would hardly seem indicated in these columns and the following notations must therefore needs suffice:

Horsley considers the double mattress suture to be superior to the Correl stitch (the latter he employs only in certain well-defined emergencies), he has found that a better tissue grip is secured, there is less likelihood of "cutting through," there is less exposure within the lumen. He accentuates the value of his angular "suture staff," particularly in the absence of skilled assistants. He does not hold "reversal of the circulation" to be a reliable procedure, contending that the blood rather promptly finds its way back to the heart by means of adjacent anastomotic veins. The suggestion that transfusion preferably be made close to a venous branch, which when severed will permit the blowing out of any clot or vaseline plug that may be formed in connection with the operation, is undeniably clever and should be given a fair testing. It is to be hoped that data and methods in connection with the problems of hemolysis may receive more critical attention at the hands of laboratory workers so that both internist and surgeon may have at their disposal a technic that will prove reliable in determining an ante-operative relation between the blood of a recipient and a suggested donor. (Horsley considers the method of Fishbein worthy of trial.) He advises, whenever possible, the extirpation of an aneurysmal sac and interposition of a venous segment with end to end suture (method of Lexer). This he considers distinctly preferable to endoaneurysmorrhaphy of Matas. A neat suggestion is made, when discussing aneurysm of the carotids, that before applying a ligature to the carotid, except in cases of grave necessity, the common carotid should be exposed under local anesthesia and gradually occluded; cooperative information may be secured from the patient; if no immediate symptoms occur the clamp may remain for forty-eight hours, to be followed by a suitable ligature. It hardly seems wise to have devoted so large a portion of this book to subjects that are not strictly germane to the surgery of blood vessels. Yet the inclusion of such themes as hemorrhage, thrombosis, embolism, resection of the bowel and hemorrhoids will doubtless add interest for the general reader, and perchance cause him to consider the strictly surgical problems. The text is enriched by nearly one hundred illustrations by Lorraine, whose work, with the finish acquired by the discipline of time, will doubtless reflect credit upon Brödel the master. Errors are not frequent, the press work is adequate, the volume as a whole exhibits a dignified simplicity. The price seems to be somewhat excessive.

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EDITOR

PUBLICATION { W. H. BREUER, M.D., Chairman
COMMITTEE { S. P. CHILD, M.D.
 { M. A. BLISS, M.D.

ORIGINAL ARTICLES

DISCRIMINATION IN THE USE OF METHODS TO PRODUCE SUR- GICAL ANESTHESIA *

ELLIS FISCHER, M.D.
ST. LOUIS

Since the discovery of the power of nitrous oxid (Wells, 1844), ether (Morton, 1846) and chloroform (Simpson, 1847) to produce unconsciousness sufficiently complete to allow of surgical operations, the surgeon has had sure methods to prevent the pain of operations. Why then do we continue our search for a better anesthetic? From the viewpoint of the patient's best physical welfare the anesthetic which least impairs his resisting powers is the anesthetic of choice. All anesthetics other than physical agents must be considered poisons. From the viewpoint of the surgeon chloroform, producing as it does profound relaxation, facilitates his work more than any other general anesthetic. Yet chloroform causes such marked pathologic changes in the parenchyma of vital organs that its use is almost prohibited.

There is another element which has come to have more and more influence in the selection of an anesthetic. It is the common experience of surgeons that physicians about to undergo an operation frequently dread the anesthetic and its sequelae more than the known risks of the operation itself; and to the laity also this dread of being deprived of consciousness is not infrequently a factor militating against a necessary operation. Impetus to the development of local anesthesia in recent years undoubtedly owes much to this factor. It has been my privilege during my recent association with Drs. Blair and Bartlett to use their clinical material upon which this study of anesthetics and their administration is based.

Ether.—Although its reign as the ranking anesthetic has been seriously challenged by nitrous oxid-oxygen and spinal anesthesia (in gynecology), we must still grant ether the first place as the anesthetic of widest range of applicability and of safety for general surgery. Except for its irritating effect upon the respiratory passages and alimentary canal, its slight tendency to destroy red blood cells and the fact that in long continued anesthesia it causes a fall in blood pressure, the physical and physiologic qualities of ether are all that could be desired for an inhalation anesthesia. After experimenting with various types of masks for the open drop method we found the Ferguson mask (Fig. 1) best adapted for our use. Its distinctive features are the flexible wire base and the adjustable cover. The former permits accurate moulding to fit the face of each patient without towel padding and the adjustable cover gives not only a larger chamber for the collection of ether vapor for its inhalation, but with its purse string top enables the concentration of ether without the use of wet towels.

The primary advantage of the open drop method is safety to the patient because of the wide limit between surgical anesthesia and death. The surgeon in this method has a means of anesthesia which is certain in its action, which requires no cumbersome or expensive apparatus, which can practically always be obtained, and which, in case of absolute necessity, can be administered by an untrained assistant.

The disadvantages to the patient are the unpleasant sensations it entails during its administration, the frequent postoperative nausea, and its detrimental action on the patient's resisting power to shock and infection. In occasional cases ether does not cause complete relaxation of abdominal muscles; it cannot be used in extended operations upon the oral and nasal cavities, or near an open flame or actual cautery.

The dangers of the open drop method are, asphyxiation from the aspiration of stomach contents, injury to the parenchyma of important organs, the general lowered resistance of the

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

patient to shock and infection, and, most important of all, the frequency with which its administration is followed by inflammations of the respiratory tract.

Ether by the open drop method is contraindicated in extended operations on the oral and nasal cavities, operations which involve the opening of one or both pleural cavities, acute diseases of the air passages, chronic tuberculous disease of the air passages, a seriously impaired myocardium, seriously impaired kidney or liver parenchyma, in high laparatomies, and in all septic cases where its use can be avoided.

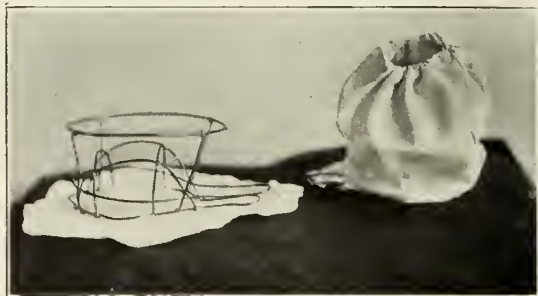


Fig. 1.—Ferguson mask, showing flexible mouth-piece and the reservoir cover which does away with the necessity for wet towels.

A preanesthetic of morphin and atropin is given to alcoholics, well developed young men, very nervous patients and in selected cases for laparotomy.

Intratracheal or insufflation anesthesia has proved of such inestimable value that we are wondering how we ever got along without it. Richardson's apparatus (Fig. 2), which is by far the simplest in its use, has proved entirely satisfactory in our hands. The patient having been first profoundly anesthetized by the open drop method, has his jaws widely open with a mouth gag. The anesthetist stands on the patient's right, inserts the forefinger deep into the pharynx and palpates the epiglottis. The catheter, previously lubricated with vaselin, projects from one to two inches beyond the end of the introducer (Fig. 3). The tip of the catheter is now guided into the larynx by the finger of the left hand. After the introduction of the tip, the anesthetist steadies the introducer with the right hand, while an assistant gently pushes the catheter into the trachea. As the catheter slips into the trachea the patient coughs. This cough is so typical that we have come to rely upon it as an indication as to whether the catheter is in the trachea or has slipped back into the esophagus. The catheter is introduced its full length before the introducer is slipped out over it and then if necessary the catheter is slightly withdrawn until, for the average case, three inches project beyond the teeth. The tube from the ether bottle is attached directly to the catheter and the operation can at once be begun.

The values of this type of anesthesia are that it is peculiarly adapted to operations about the oral and nasal cavities inasmuch as there is a constant stream of air and vapor blowing out from the larynx, which prevents the influx of saliva, mucus and blood, and the anesthetist is entirely removed from the field of operation. This latter advantage applies also to its use in all operations about the head and neck; in those cases of "saber trachea" due to pressure from a goiter, which so frequently become more or less asphyxiated during thyroidectomy, its use is particularly gratifying. In all laparatomies above the umbilicus not only does it immobilize the diaphragm, thus making the intra-abdominal manipulations easier, but it frees the upper air passages of mucus and saliva and reduces to a minimum the danger of postoperative pneumonia. It has practically eliminated the danger of the anesthetic in intrathoracic surgery. The disadvantage of this type of anesthesia is that in some cases the catheter cannot be introduced into the larynx. In such cases we have occasionally performed tracheotomy in order to make the use of insufflation anesthesia possible.

The indications then for intratracheal insufflation are: operations about the head, neck, nasal and oral cavities where a general anesthetic is used; all operations within one or both pleural cavities; all abdominal operations above the umbilicus.

In regard to the necessity of a preanesthetic, morphin gr. $\frac{1}{6}$ to $\frac{1}{4}$ and atropin gr. $\frac{1}{150}$ are

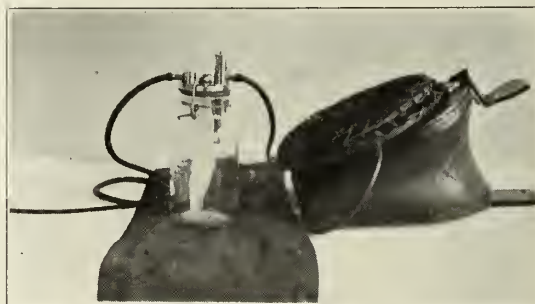


Fig. 2.—The Richardson apparatus for intratracheal anesthesia. Under forced pumping with dental foot pump a maximum of 37 mm. of mercury was delivered through the outlet tube. Safe, portable and nothing to get out of order; the container is an ordinary Mason jar.

given as routine in every case where intratracheal insufflation is used.

Ether Vapor Spray is administered by some form of apparatus which forces ether vapor to the oral or nasal cavity for the purpose of continuing general anesthesia. The apparatus for its administration should have the following parts: An ether bottle in which the vapor is produced; a firm container for hot water in which the ether bottle is placed to cause the formation of ether vapor; an intake for air under pressure, and an outlet for the vapor

from the ether bottle; a hand air pressure bulb, tubing, and an outlet tube at the end of which is a hollow metal director for the vapor. The Rupert apparatus (Fig. 4) has been used by us with perfect satisfaction.

The advantages of this method are that the anesthetist is out of the way of the operator and by means of a specially devised end piece may even assist him. It is the method which entails less danger to the patient than any other form of ether inhalation anesthesia. It has one great disadvantage; it is impossible to maintain surgical anesthesia in robust individuals. This

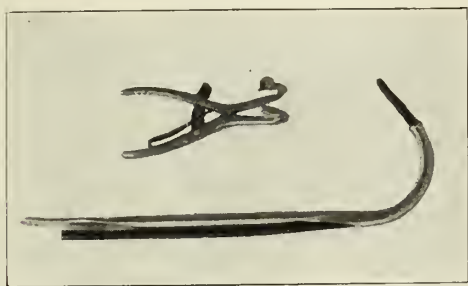


Fig. 3.—The Robinson introducer for intratracheal anesthesia, with the woven silk catheter in the position most commonly used for introduction.

has led to a decided restriction in its indications. For adults, intratracheal insufflation answers every indication better than ether vapor spray, but in extensive operations about the nasal or oral orifices in children and especially in infants no other method has proved so satisfactory.

Intravenous Ether Anesthesia (Fig. 5).—Although of great interest this method to induce and maintain anesthesia has too limited a scope to entitle it to an extensive discussion in this paper. The method reads simple enough; 5 to 7 per cent. solution of ether in normal salt solution is allowed to run continuously into a vein; but the technical difficulties and uncertainties in the production of satisfactory anesthesia are so great that we find only one indication for its use, which is, patients dehydrated from any cause, but preeminently patients with long-continued pyloric obstruction. In these cases intravenous ether anesthesia can be relied upon to produce surgical anesthesia and to bring the patient through the operation with better color, better pulse, and better resisting power than before he went to the operating room. A preanesthetic administered to the stage of twilight sleep is essential for the success of this anesthesia.

Second only to ether in its various modes of administration to produce surgical anesthesia is novocain. The great impetus given to local anesthesia has been due to the ideal qualifications of this drug for anesthetic purposes. It is a white crystalline powder of neutral reaction;

soluble in equal parts of water, it can be heated to 120 C. without decomposition. Its solutions are capable of repeated boilings and it will keep for several months without deterioration. Its physiologic action on nerves is the same as that of cocain and its derivatives. There is no local irritation to the tissues even from concentrated solutions. Its toxicity relative to cocain is one fifth to one seventh, while its anesthetic value when combined with adrenalin quite equals that of cocain for any strength solution; when combined with adrenalin it may for practical purposes be considered nontoxic. I have repeatedly used from 6 to 8 ounces of a 0.5 per cent. solution for laparotomies, and on one occasion Dr. Blair injected 10 ounces containing in all 25 grains of novocain without an appreciable effect on the patient from the drug.

In the successful use of novocain by infiltration the size of the syringe and the length of the infiltrating needle are the most important factor (Fig. 6). The syringe should hold 10 c.c. of solution, and the needle should be approximately 3 inches long. The method of infiltrating for various operations was first placed on a firm scientific basis by Braun; and while his technic is by no means the only satisfactory one, yet it is so complete that if closely followed favorable results are certain. The solution ordinarily used is 0.5 per cent. novocain in normal salt solution with the addition of 3 drops of adrenalin chlorid 1/1,000 to each ounce of solution. Wherever possible the tissues in the immediate operative field are blocked off by surrounding



Fig. 4.—The Rupert apparatus for the administration of ether vapor spray. The metal container for heating the ether holds the ether bottle firmly in position and permits the water to be renewed at will.

them by an infiltrated zone of anesthetic solution. This method does not distort the tissues through which the dissection must be made, and in case the operative field must unexpectedly be enlarged, the infiltrated zone is usually great enough to allow prolongation of the incision without stopping for reinjection.

Whenever the extent of the operation makes the above method impracticable, nerve blocking is resorted to by infiltrating the tissue about the nerve trunks which supply the affected regions. Frequently the two methods are combined.

The advantages of this method of anesthesia are that the operation is performed at a minimum of risk to the patient and the absence of all postoperative complications intrinsic to the anesthesia; not infrequently the surgeon is aided by voluntary movements of the patient. On the other hand, a complete anesthesia even in most favorable regions cannot be guaranteed and the patience of both patient and operator may be sorely tried. Another disadvantage is the time which must elapse between the injection and the production of anesthesia.

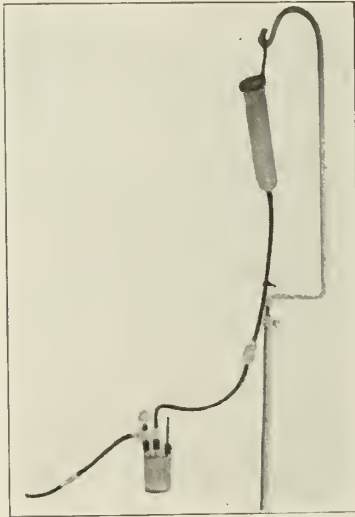


Fig. 5.—The apparatus used by the writer for the administration of intravenous ether. The three-neck Wolff bottle is used for the inlet, the outlet and the thermometer. Heat is supplied by setting the bottle in a basin of water upon the surface of which an incandescent lamp is lighted.

The indications for local anesthesia by novocain infiltration are the desire of the patient to avoid a general anesthetic, conditions of the patient which contraindicate a general anesthesia, absence of a competent anesthetist, and operations which can be better performed under infiltration. The field for infiltration anesthesia is constantly increasing until there is scarcely a type of operation, minor or major, which if it does not involve tugging and pulling cannot be brought within its scope.

In all major operations in which a local anesthetic is used the patient is given bromids on entrance to the hospital the evening before the operation; at 8 p. m. he is given 5 grains of veronal; one hour before the operation he receives morphin $\frac{1}{4}$ grain, scopolamin $\frac{1}{150}$ grain; and if by the time the infiltration is begun he is not distinctly drowsy an additional $\frac{1}{8}$ grain of morphin is administered.

In contrast to the efficacy of novocain when used in infiltration is its unsatisfactory use as a topical application to mucous membranes, due to its slow absorbtion. In the genito-urinary tract used in as high as 10 per cent. concentration I have failed to get satisfactory anesthesia.

Another use of novocain which not infrequently solves an anesthetic problem is its intravenous administration. The essential apparatus (Fig. 7) is a large, powerful syringe, either metal or glass, and a blunt needle, grooved to prevent slipping when ligated in the vein. It is applicable only to the extremities. The blood is exhausted from the member, preferably by a rubber roller bandage. A tourniquet is tightly applied to prevent a return flow of blood or escape of anesthetic; then a large vein is exposed, the needle tightly ligated in its lumen and a 0.5 per cent. solution of novocain without adrenalin is injected under high pressure. All tissues are permeated by the solution and complete anesthesia is obtained below the encircling band. Operations of any magnitude can be performed without the patient experiencing any pain except the discomfort of the tourniquet, which can be relieved by applying a second within the anesthetized zone. In operations in which infiltration anesthesia is impracticable and nerve blocking is uncertain this method is of great value. Its disadvantage is that hemostasis cannot be perfect. The larger vessels alone can be ligated, since the anesthesia disappears very rapidly after the tourniquet is removed. Intravenous novocain anesthesia is contraindicated in diabetes mellitus and all diseases of the blood vessels and in lymphangitis. No preanesthetic is required except to allay mental excitement or uneasiness.

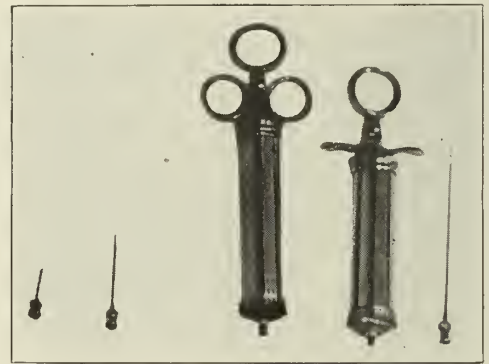


Fig. 6.—The armamentarium essential to the successful use of infiltration anesthesia.

Spinal Anesthesia.—The three drugs today in common use for the induction of spinal anesthesia are stovain, novocain and tropococain. Tropococain is more reliable than novocain and less toxic than stovain; it occurs in the form of crystals readily soluble in water; it destroys the vasoconstriction action of adrenalin.

The technic for the induction of spinal anesthesia is exceedingly simple, but each step must be carefully executed. The special instruments required are a needle for spinal puncture and an all-glass syringe which fits the needle per-

fectly (Fig. 8). The points in technic to be especially emphasized are to rinse all instruments and utensils in saline solution after boiling; never to make the injection above the first lumbar interspace; to be sure to get a free flow of clear spinal fluid before making the injection; and to keep the patient in sitting posture for three minutes after the injection is made.

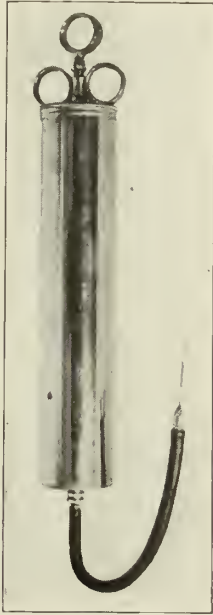


Fig. 7.—Large all-metal syringe purchased on the open market for the administration of intravenous novocain.

The advantages of spinal anesthesia to the patient are that any operation below the umbilicus can be performed without a general anesthetic, and postoperative discomfort from nausea and vomiting is lessened. The surgeon has at his command an anesthetic of true value in those cases where infiltration anesthesia cannot be used, and in abdominal operations his work is facilitated by the absolute relaxation of the muscular walls.

The disadvantages are that in some cases anatomic conditions make the introduction of the needle impossible; a small proportion of cases even with perfect technic will not be anesthetized; and the anesthetic dose, once given, cannot be changed. Compared to other methods it is dangerous; it lowers blood pressure to a marked degree and kills by paralysis of the respiratory and cardiac centers.

At present our indications for spinal anesthesia are those cases in which ether is contraindicated and in which infiltration will not give sufficient relaxation and freedom from pain. A preanesthetic should always be given; as for local anesthesia, the nearer the patient is to twilight sleep the greater the probability for a satisfactory anesthesia.

Nitrous Oxid-Oxygen Anesthesia.—In spite of the vast amount of investigation into the action of nitrous oxid the exact mechanism by which it produces anesthesia is still unproved. That asphyxiation plays an important rôle in its action cannot be denied.

There is but one method for the administration of nitrous oxid-oxygen. It must be inhaled. Many different designs for apparatus are to be obtained. The Coburn apparatus (Fig. 9) has proved perfectly satisfactory for the administration of gas; it has one distinct advantage over the Gatch and Tetter designs, inasmuch as the mixing and rebreathing bag is attached very near the mask. Also the Coburn apparatus is easily portable (Fig. 10).

The advantages of gas-oxygen anesthesia are that it produces unconsciousness with the minimum of psychic stress to the patient; nausea and vomiting are rare sequelae, and postoperative complications are practically unknown. When administered by an expert anesthetist it is the safest means to induce general anesthesia.

The disadvantages to the patient are a slight lowering of natural resisting powers and the expense of the gas. The average surgeon, on the other hand, is at a distinct disadvantage. The dark color of the blood leaves him in doubt as to the condition of his patient; the increased venous bleeding will frequently embarrass him and unless his manipulations be very gentle he will find the anesthesia not sufficiently profound for a smooth technic. The apparatus is more or less cumbersome and is apt to restrict the freedom of movement incident to operations above the clavicle. The source of danger in

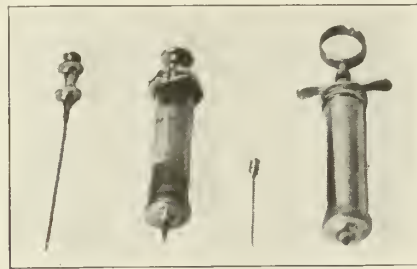


Fig. 8.—Instruments used in the administration of spinal anesthesia.

gas-oxygen anesthesia is the very narrow zone in which surgical anesthesia is present. Even in this narrow zone any rough manipulation will "wake the patient up;" and to overstep this zone means death from failure of respiration and heart action.

Therefore the indications for nitrous oxid-oxygen anesthesia are first and foremost, to have an expert anesthetist give the anesthetic. Under this condition, and if the expense of the gas be no consideration, its use is indicated in any operation the individual surgeon can per-

form under such light anesthesia. When it is necessary to add considerable quantities of ether to the gas, as has been our experience in all operations of any magnitude, it has no decided advantage over ether.

Combined Anesthetics.—Frequently the combination of several anesthetics offers comparative safety in otherwise dangerous anesthetics. Bürge has proved that the sum of many anesthetic drugs necessary to produce anesthesia is less toxic than one drug used alone. And while the average surgeon cannot command the necessary trained assistants to carry out this practice

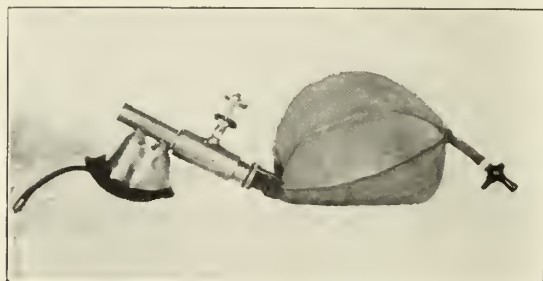


Fig. 9.—The Coburn apparatus for the administration of gas or gas-oxygen anesthesia. The rebreathing bag is close to the mask and the whole apparatus can be taken apart.

in his routine work, yet there are occasional cases in which its practice is simple and of invaluable aid to the patient.

The combination of morphin-atropin-ether is well known. A patient not sufficiently relaxed under ether should receive an injection of morphin rather than be drowned with ether. Morphin-atropin, or morphin-scopolamin, and nitrous-oxid-oxygen can be administered with advantage to apprehensive patients, and particularly to patients who have a dread of ether. But the method's greatest help is in acute bowel obstruction and already toxic cases, and in abdominal operations on the aged. After a preliminary hypodermic injection of morphin-atropin, novocain infiltration is used. Then if the nature of the lesion and the necessary manipulations will be painful, nitrous oxid-oxygen is given until the painful stage is passed; the subsequent procedures are carried out with the patient again fully conscious.

Conclusion.—The conclusion which must be drawn by any close student of the anesthetic problem is that today we do not possess any drug or method of anesthesia which, without qualification, can be termed the best method to produce anesthesia. In this age of medical and surgical progress what is generally accepted as good practice today may be eschewed tomorrow. While ether must be conceded the widest range of usefulness, its territory is being constantly so encroached on that it can only be a question of time before it, like chloroform, will become

largely historical. Today the trend of practice and investigation is toward a higher development of regional and spinal anesthesia, and the training of skilled anesthetists for the administration of nitrous oxid-oxygen. But I firmly believe that the general anesthesia of the future will be accomplished by the introduction of the anesthetizing agent directly into the circulation.

This study of various methods of anesthesia which have been applied with profit in private practice was prompted by personal observation of many different methods in use in various American and European clinics in 1911 and 1912, by the claims of many authors for the advantages of certain deviations from accepted forms, and by the stimulating environment during my association with Drs. Blair and Bartlett, whose suggestions and methods have been freely incorporated in this paper.

Humboldt Building.

DISCUSSION

DR. WILLARD BARTLETT, St. Louis: I do not think Dr. Fischel has given you an adequate idea of the importance of his own paper because he has not stated that what he has told you is founded upon his own study of 1,600 surgical patients. As he read it rapidly it might have occurred to some that he was simply relishing the literature. I do not mean to say he has any original inventions worked out, but he has worked out and modified all the methods and has devised an apparatus for intravenous anesthesia which makes it vastly easier than he tells you. I first tried



Fig. 10.—The Coburn gas apparatus taken apart and packed in a cigar box is easily portable.

the intravenous anesthesia in Kummel's clinic in Hamburg in 1912 when it came out. Later I tried to use a simple apparatus, such as Kummel used, but could not make it work. Then Dr. Fischel went to one of the chemists' shops, rigged up an apparatus and made the thing work perfectly on ten patients, and while he says that it was very hard, and I will state that I found it so, still he found it very easy.

The injection into the blood stream of 5 per cent. ether gives, we have found, a perfect anesthesia, and where you have a dehydrated patient it allows you to get the patient back to bed, at rest, with a circulatory system full of salt solution and in quite different condition from one who has had an inhalation anesthesia.

In regard to the intratracheal insufflation, we introduce an ordinary catheter into the trachea, attach a

bellows and pump in ether vapor, which is regulated in concentration and is mixed with air according to the patients' different needs. We got the right-sided pneumonia, which we see so commonly follow the operation, until we began to use the intratracheal; and all of you get it at times, because the patient is put to bed after an ordinary ether anesthesia with a respiratory tract containing a larger than the normal quantity of mucus, and because the patient, on account of pain on breathing deeply, will not make use of the lower lobe of the right lung. After a high operation, the diaphragm is automatically fixed on account of pain in the abdominal wall, due to cutting, retracting and sewing, and therefore we now use the intratracheal anesthesia, which blows out the mucus as it blows in the ether; and when the patient is put to bed, free of septic material, even though the wall is fixed and he does not breathe well, the likelihood of infection is greatly reduced.

Dr. Fischel has infiltrated for me about thirty patients with inguinal hernia. We got through with every one of them without the use of the general anesthetic and with the patient in such shape that there was no tendency to hiccupping or to vomiting, such as follows the ordinary inhalation of ether, consequently with the patient predisposed to correct wound healing instead of to the disruption of the wound, the coughing out of the sutures, secondary hemorrhage into the wound and to things of that kind.

I want to say again what I said in the beginning of this discussion, that I consider this an important paper because it is founded on 1,600 actual observations and because there is a limited number, and only a limited number, of patients, I am frank to state, in whom we can profit by the use of some anesthesia other than the standard inhalation.

Dr. H. S. CROSSEN, St. Louis: Dr. Fischel has given us an excellent résumé of the subject of anesthesia as it stands today. There is just one point, however, which I feel needs a little explanation to obviate danger. The doctor stated, if I understood him correctly, that it was a good idea to give morphin when the patient was not taking the ether well. I have discussed that point with my own anesthetist quite a little. While I find it excellent as a rule to give morphin and atropin as a preanesthetic sedative, we have observed this: if it is given too close to the anesthesia, so that the effect of the morphin has not been fully felt before the patient is under the anesthetic well, the patient goes more deeply under than we wish him to. The morphin ought to be given long enough beforehand so that the patient gets the full effect before he is deeply under the ether. We have observed in a few cases the patient getting into a rather serious condition, which we believe to be due to the full effect of the morphin being manifested after the patient was under the anesthesia. If the morphin is given at the beginning of the anesthesia, not a half or three-fourths of an hour before, the maximum effect may come at a very dangerous time.

Dr. ELLIS FISCHEL, St. Louis (closing): I think Dr. Crossen did misunderstand me. We do give morphin and atropin as a preanesthetic in selected cases. The morphin is given from one-half hour to one hour before the patient comes to the operating room—before the anesthetic is administered. My reference to the use of morphin to produce relaxation is that when a patient is already under the influence of anesthetics, as deeply under the influence as we feel it safe to push the ether, instead of giving a few drops of chloroform, as has been the custom, we give a hypodermic of morphin and find that it does give relaxation of the very tight abdominal wall.

Dr. Bartlett has made reference to the difficulties of intravenous ether. I can assure you that it is difficult and that a man starting in with its use, trying to

perfect a technic for it, is bound to meet with many discouragements. The greatest tip to be given about it is this: We see that a 5 per cent. solution is stated as being strong enough, but it is not. I have found that the ratio most convenient for making up the solution was one ounce of ether to sixteen ounces of saline solution. Ether is stated by various chemists and pharmacologists to be soluble in from ten to twelve parts of water, but I have never been able to make it stable in saline solution beyond the proportion of one to sixteen, and even then we frequently see a small layer of ether floating on the top of the solution.

HODGKIN'S DISEASE *

GEORGE IVES, M.D.
ST. LOUIS

Notwithstanding recent advances in our knowledge of Hodgkin's disease, there are still many questions relating to it to which satisfactory and final answers have not been given. It will be the chief objects in this paper to bring together those facts and theories regarding the disease which are necessary to an understanding of some of its broader aspects, and to indicate in a general way some of the problems in connection with it.

For the sake of discussion, we may consider the disease in the three chief aspects in which it may be viewed, viz., (1) from the standpoint of its symptomatology, (2) from the standpoint of its pathologic anatomy, and (3) from the standpoint of its etiology. It may be stated at the outset that Hodgkin's disease may be defined on all three of the above bases, and that the cases included under one definition do not coincide accurately with the cases included under another.

The clinical conception of the disease, which is the one most prevalent, is that it is a fatal affection involving the lymph glands, manifested by a progressive enlargement of one or more groups of glands, and accompanied by a progressive anemia. Although it is true that the disease may apparently originate in different groups of glands, a clinical diagnosis of Hodgkin's disease is rarely suggested unless the glands of the neck are primarily and chiefly affected.

A correct clinical diagnosis of the disease may be made in the so-called typical cases of Hodgkin's disease of the neck, but such is not the case when the disease is in its incipency. In this respect Hodgkin's disease has a parallel in cancer. When we observe, for instance, the classical signs of cancer of the breast, then the disease has progressed sufficiently far to offer an extremely grave prognosis. When cancer is in its incipency, at which time it is frequently curable, there is little or no clinical evi-

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

dence to distinguish it from benign neoplasms. Since it is necessary to observe the progress of a case of Hodgkin's disease extending over a period of months or years in order to be reasonably certain of a symptomatic diagnosis, it will be agreed that symptomatology offers an unsatisfactory basis for a diagnosis. In the future the truth of this contention will be all the more evident, if it is true, as has been maintained, that those cases offer a favorable prognosis which are recognized early and treated along lines which will be briefly mentioned.

The symptom-complex of Hodgkin's disease may be very accurately imitated by various conditions both of known and unknown etiology. Hodgkin, in his original paper, included cases which were probably syphilis, tuberculosis and leukemia. Repetitions of such errors, as the history of the disease reveals, emphasizes the fact that Hodgkin's disease presents no pathognomonic symptom-complex. In view of the fact that the clinical conception of the disease is descriptive of a well-advanced condition, which is beyond the stage when medical and surgical assistance offers a possibility of permanent relief, and in view of the fact that such clinical conditions may prove to be syphilis, tuberculosis or some other condition, it seems justifiable and proper to minimize the value of the clinical conception of the disease.

Pathologists, over a period of many years, have studied cases of clinical Hodgkin's disease. Attempts to name the disease on a pathologic basis have led to various names being applied to it. Among these names may be mentioned lymph adenoma, lymphosarcoma, malignant lymphoma, pseudoleukemia, desmoid carcinoma, lymphoblastoma, lymphogranulomatosis, etc. It is evident from the great variety of names which have been applied that different pathologists, in studying their cases of clinical Hodgkin's disease, have observed more than one histologic picture.

The chaotic condition as regards the definition of Hodgkin's disease which prevailed, notwithstanding both clinical and pathologic studies, has, since the work of Reed, Andrewes, Longcope and many others, been displaced by clearer conceptions of the disease. For more than a decade pathologists have almost uniformly agreed that the name Hodgkin's disease should be restricted to include only those cases in which the affected lymph glands present the microscopic anatomy first satisfactorily described in 1902 by Reed in this country and by Andrewes in England.

If the view which has so generally prevailed since 1902 be true, that only those cases which present the histologic changes described by Reid and others should be called Hodgkin's disease, it appears that lymphogranulomatosis of German authors is the most suitable name

for the disease. According to the pathologic conception of the disease, its recognition depends on a microscopic examination of the affected lymph glands. The essential features of the histologic picture consist in a definite and often marked increase in the fibrous reticulum, the presence of few or many mononuclear or multinuclear giant cells of unknown origin, and the infiltration of eosinophilic leukocytes. It is probable that early in the disease, and perhaps even after marked involvement of the lymph glands, so much of this histological picture may be absent as to make the recognition of the condition difficult or impossible.

To illustrate the statement made above, that the various definitions of the disease do not include the same cases, the experience of Warthin is both interesting and instructive. He found that of the clinical cases of Hodgkin's disease in which he made pathological examinations, only one-third satisfied the pathologic conception of the disease.

A complete historical review of the bacteriologic studies in Hodgkin's disease cannot be attempted on this occasion because of the numerous papers which have appeared on the subject. It was due to the work of Sternberg that at one time the view that Hodgkin's disease is an atypical manifestation of tuberculosis was accepted by many. At the present time Sternberg's conception of the etiology of the disease has very few adherents. Various other organisms have been reported to have been found in the affected lymph glands. It is only recently that the findings of various investigators have shown a sufficient degree of uniformity to make it highly probable that the etiologic agent has been found.

In 1913 Negri and Miermet reported the finding of a diphtheroid bacillus in cultures made from the glands in Hodgkin's disease. Several American investigators have confirmed, in the study of numerous cases, the work of Negri. Among these may be mentioned Bunting and Yates, Billings and Rosenow, Ives, and Rhea and Falconer. Verploegh, in Germany, has reported the isolation of the same organism in several cases which he studied. In sections of the affected glands, and in the sediment remaining after digesting the glands in antiformin Fraenkel and others have demonstrated a diphtheroid bacillus.

The experiments of Bunting, in which he produced in monkeys histologic Hodgkin's disease by inoculating the *Bacillus hodgkini*, give further support to the possibility that this organism is the exciting agent of the disease. Bunting's animal experiments are among the most important researches in this subject. If his work is confirmed it will offer convincing proof that Hodgkin's disease is an infectious disease due to the *B. hodgkini*.

Although there are no facts which disprove the etiologic relationship of this organism to Hodgkin's disease, there appear to be grounds for an expression of conservatism on this subject. We know that a diphtheroid organism is present in the lymph glands of many cases of this disease. We know that investigators are more apt to report positive results than they are to report the results of negative investigations. It is true that some cases have yielded negative cultural findings. Such negative findings may be due to faulty technic, to scarcity or absence of organisms, or to the fastidiousness of the organisms which may be present.

Immunity reactions in Hodgkin's disease furnish little or no support to the contention that the Hodgkin's bacillus is the exciting organism of the condition with which it has been shown to be associated. The presence of specific antibodies in the blood serum of cases of Hodgkin's disease has not been demonstrated. However, it cannot be stated that investigations in this field have been sufficiently extensive to warrant a final conclusion as regards their presence or absence. The results of vaccine therapy, notwithstanding the early optimistic report of Rosenow, are not such as to furnish convincing support to the supposed relationship of the organism and the disease.

Organisms which, so far as known, are identical with the *B. hodgkini* have been found in conditions which for the past decade or more have not been looked upon as Hodgkin's disease. The isolation of diphtheroid bacilli from cases of lymphosarcoma by Bunting and by Rosenow, from Banti's disease by Yates and his associates, and from lymphatic leukemia by Steele, suggests two possibilities which deserve our consideration: First, diphtheroid bacilli may be found in pathological tissues and have no etiologic significance; second, these organisms may excite a variety of conditions, among which may be the conditions which we now designate Hodgkin's disease, lymphosarcoma, lymphatic leukemia, Banti's disease, etc.

If the latter possibility is proved to be true by future investigations, then our conception of Hodgkin's disease will experience a radical change. If the *B. hodgkini* excites not only the condition called lymphogranulomatosis but the other pathologic conditions mentioned, then all these conditions must be included under Hodgkin's disease. Our conception of the disease will be shifted from a pathologic basis on which it now rests to an etiologic basis. Yates, who accepts the *B. hodgkini* as the cause of Hodgkin's disease of the Reed type, and who believes that it may excite the other conditions mentioned, has proposed temporarily the following definition of Hodgkin's disease: It is "an infectious, non-contagious affection due to the *B.*

hodgkini. It is characterized by a somewhat variable, though definite, reaction in the lymphatic and perilymphatic structures, specific changes in the blood picture, and by the manifestation of little or no tendency to spontaneous recovery."

Notwithstanding the fact that experience has taught that practically without exception Hodgkin's disease is a fatal affection, there are facts and theories brought out recently which justify a more hopeful prognosis in those cases which are recognized early and treated along lines suggested by recent contributions to the subject.

The view has been expressed that the *B. hodgkini* usually gains access to the body through diseased teeth, tonsils or accessory sinuses. Rosenow has found a diphtheroid bacillus in the mouth, and Bunting has observed Hodgkin's disease of the tonsil. The cure of such pathologic conditions as those mentioned should, until contradictory evidence is presented, be considered as both prophylactic and necessary to the cure of Hodgkin's disease.

Surgical treatment is one of the most important aids in the proper management of a case of this disease. The object of the surgeon should be the complete removal of the affected lymph glands. The nature of the operation should be much the same as for cancer similarly located. A radical operation is required. After operative intervention the Roentgen ray should be used in the hope of curing affected lymph glands which may remain and to prevent recurrences. Hygienic and medicinal treatment should not be neglected. The latter measures are known to influence the disease beneficially; by themselves they seldom or never effect a cure, but their use in connection with other measures is demanded. It is, then, by a combination of therapeutic measures, by the use of old and new facts, that better results are to be expected in the treatment of Hodgkin's disease.

213 Wall Building.

DISCUSSION

DR. W. W. DUKE, Kansas City, Mo.: This very important subject has been presented very clearly and completely.

In the way of a brief discussion, I will say first of all that I think we have all welcomed the investigations which make it now seem possible to clear up the pathology of Hodgkin's disease. This, as well as other diseases of the lymph glands, is now hopelessly ill defined. The fact that Hodgkin's disease has been given the variety of names mentioned by Dr. Ives shows the degree to which writers have differed in the past. Some have looked upon the condition as a type of malignancy; others as an infectious disease. The investigations especially of Negri and Miermet directing attention to the diphtheroid bacillus and those of Bunting and Yates, in which a condition similar to early Hodgkin's disease was produced by the injection of the same bacillus into animals, leave

comparatively little doubt concerning the etiology of the disease. The entire part played in pathology by this organism has yet to be worked out. It will be interesting to follow these researches. A diphtheroid bacillus has already been isolated from the spleen in Banti's disease and from the lymph glands in lymphocytic leukemia and lymphosarcoma, as has been mentioned by Dr. Ives. Now that attention has been directed to diphtheroid bacilli they will probably be found under other conditions also.

The fact that diphtheroid bacilli are found in diseases other than Hodgkin's is no real obstacle to a view that a diphtheroid bacillus is the real cause of Hodgkin's disease. We know that the reaction of tissues against an organism which gives rise to certain clinical pictures varies with the virulence of the organism; also with the constitutional resistance against that organism, and finally with the localization of an infectious agent. The latter factor, it must be added, may be largely determined by the two factors—virulence and resistance. We know also that organisms may be identical according to our crude methods of examination and yet produce entirely different diseases. It may be that the bacilli found in Hodgkin's and Banti's diseases are closely related, or it may be that they have no relationship to each other, except in their appearance and cultural reactions.

When we bear in mind that reaction of the tissues against tubercle bacilli may vary from a harmless encapsulation to a purulent rapidly fatal inflammation, we may reasonably expect that a varied set of changes will be found associated with the Hodgkin's bacillus.

DR. GEORGE IVES, St. Louis, closing.—Dr. Sargent has brought a case here today and in closing the discussion I will say that the case is that of a little girl who has general enlargement of the lymph glands, most prominent on both sides of the neck. The duration of the disease is five weeks, and if it is Hodgkin's disease, it is a very acute type of the disease. The blood picture is important and in this case it shows a leukocyte count of something like 30,000, with 70 per cent. lymphocytes. These findings make it very probable that it is a case of leukemia, which future investigations may prove to be one of the manifestations of Hodgkin's disease.

PROGRESS IN OBSTETRICS FOR 1914*

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A most thorough and excellent report on the obstetrical progress for 1913 was made both before the obstetrical section and the general body. The Abderhalden test was also carefully considered together with a practical demonstration of its technic. Within recent date the scopalammin-morphin treatment, or the so-called twilight sleep, has also been placed before the society. It would seem therefore that most of the important points in recent obstetric progress are still quite fresh in our minds and that an extended report at this time would be scarcely more than a rehash.

After due consideration it seems that the last twelve months have not brought us any new and

special additional features, but that the time has been rather devoted to developing, perfecting and crystallizing the things which were in a way new at the beginning of the year, and a brief consideration of these will form the basis of this report.

It will be well for the sake of order to classify our various subjects and to follow one with the other. Therefore we will discuss the following points:

1. Progress due to better education of the laity.
2. Progress due to scientific development, including operative obstetrics.
3. Cesarean section.
4. Placenta praevia.
5. Gestational toxemia.
6. Development of skill in determining progress of labor and diagnosis of fetal position by external examination.
7. Twilight sleep.
8. Pituitrin.
9. Ophthalmia neonatorum.
10. Puerperal infection.
11. Serodiagnosis and serum therapy.

1. Looking backward, we all know that the attitude of the laity in general toward childbirth has always been different from that toward any other condition which brought patient and doctor together, in fact (and this further illustrates the point) the doctor was in a fairly large number of cases not considered at all necessary, a midwife being employed.

The Indian women and women of other uncivilized tribes were held up as shining examples of what nature could and would do for the child-bearing woman if let alone. Reliable reports made at various times by army medical officers in the Philippines and from other sources have told us a different story; nevertheless these ideas still prevail, with the result that many a medical attendant is often unjustly censured when things go wrong, and while it is true that a very large percentage of all pregnancies and labors are normal, yet it seems the better part of wisdom to look upon pregnancy as a "disease of nine months duration."

Fortunately for the prospective mother and the doctor as well, there is unquestionably a growing realization of the seriousness of pregnancy and labor; there is an increasing demand for better-equipped medical attendants, and in localities affording hospital facilities there is a growing demand for these advantages.

This education is due to two things, first, the efforts of the medical profession, and second, the efforts of many of our leading magazines and daily newspapers. As an illustration of the influence of the latter I need but mention twilight sleep.

* Read before the Jackson County Medical Society, Feb. 16, 1915.

2. In the introduction in DeLee's "Obstetrics for Nurses" the first two paragraphs read thus:

"Statistics show that of every 250 women who become pregnant, at least one dies. Seven per cent. of the deaths of women between the ages of 20 and 40 years are due to puerperal infection. Conservatively estimated, 20,000 women die every year in the United States from the immediate and remote effects of childbirth. Thousands of women enter our hospitals each year for the repair of injuries acquired during delivery and seeking relief from the diseases caused by childbearing."

Do not these words furnish us food for thought?

Can each and every one of us look back over our years of experience and say that our skirts are clear?

Are they not sufficient to stimulate our efforts for the betterment of our obstetrical work? There can be no question but that the science of obstetrics in recent years has and is now making wonderful progress. Time and space will not permit of details, but only as one evidence, attention should be called to the cesarean section, done years ago as a dernier resort with almost a 100 per cent. mortality (75 to 85 per cent.) and now as an elective operation which with modern technic has a 2 to 4 per cent. mortality.

The use of the pelvimeter, the application of the sphygmomanometer and the resulting knowledge of blood pressure and its relations to the toxemias of pregnancy and the insistence that every pregnant woman should place herself under her physician's care as soon as the first menstrual period is missed are all factors in materially reducing the number of women who go into labor blindly; thereby lessening the perils of childbirth and raising the standard of obstetrics.

The question as to the advisability of waiting seven days before repairing lacerations of the pelvic floor and cervix instead of doing so at once has arisen, some excellent men advocating the one plan and again equally good men the other. There can be no doubt that the seven day plan has some advantages, the tissues have by that time regained much of their normal tone, the lochia has decreased and in selected cases with marked edema, the plan is undoubtedly the wisest. On the other hand, the failure to close the wounded areas must leave open and granulating surfaces which must invite infection and the seventh or eighth day plan must necessarily prolong the convalescent period, something which as a rule is undesirable.

Dr. E. P. Davis, Philadelphia, advises an immediate repair of a lacerated cervix, claiming that his results are better than those of the usual method, that primary union is the rule

and that involution progresses more satisfactorily. This is well worth our attention.

3, 4 and 5. These deal with placenta praevia, gestational toxemia and cesarean section and are considered together on account of the new correlation between the first two and cesarean section. The *American Journal of Obstetrics* (September, 1914) published a paper by Dr. George E. Boyd of Philadelphia, who reports a series of forty-eight cesarean sections with no maternal deaths and forty-six living children. While the variously contracted pelvis furnished most of the indications for section, yet gestational toxemia was responsible for three cases.

A personal letter within the year to eight or ten of the leading men of the United States as to their views regarding cesarean section as the operation of choice in cases of placenta praevia centralis brought the reply from all but one that this was in their opinion the best procedure.

In an eclampsia of intense severity, especially in a primipara in whom the convulsions are severe and follow one another in rapid succession, are difficult of control, with a rigid cervix that promises long delay in securing full dilatation, the classical cesarean section undoubtedly gives both mother and child the best chance, granting of course that the latter is viable and providing that the preceding treatment has not been such as to make infection likely or to make the mother a poor surgical risk otherwise.

A vaginal cesarean section may also be considered, and wisely, and while this opens the cervix, yet in a primipara at or near term with rigid and unprepared parts there are still to be met difficulties in delivering the child, conditions which would of course probably not prevail in a multipara.

In connection with this operative procedure it seems that there is a decreasing number of cases in which a high forceps delivery is indicated, and when we take into consideration the difficulties of a high forceps operation with the resulting almost certain injury to the mother and the great chance for infection, together with the high fetal mortality, and compare this with the results of a clean abdominal section, we cannot help but feel that the latter should be the choice of procedure, podalic version and extraction to the contrary notwithstanding.

As regards the etiology of eclampsia we must still regard this as a "disease of theories." In the December number (1914) of the *American Journal of Obstetrics*, Dr. E. T. Hull, obstetrician, and G. L. Rohdenburg, pathologist, to Lincoln Hospital, New York City, present an interesting series of experiments on this condition in which autolysates of rabbit placenta, rabbit fetuses, rabbit fetuses with placenta and membranes and adult rabbit kidney and liver were prepared by grinding up the tissue and

mixing with salt solution, next covered with toluol, then placed in an incubator at 37 C. for five days and then filtered. The resulting product was then injected into animals, male, and pregnant and nonpregnant females. These animals were killed and autopsies performed.

Again, rabbit fetuses and their placentas were similarly ground up and then boiled and subcutaneous injections of the product were given. In this class the animals not killed developed coma, had convulsions and died. Intense congestion of the kidneys and liver and occasionally of the brain was formed, also subcapsular hemorrhages in liver and kidney.

Summarizing, these men say:

1. Fermented active homologous protein (the first product) causes extensive degeneration of the liver, lesions present in the eclamptic human female.

2. Homologous protein (boiled product) damages the kidney, producing an immense amount of albumin and all kinds of casts in the urine, the animals dying in convulsions and coma.

3. Leucin, one of the products of autolysis, produces also marked degeneration of both liver and kidney.

Reasoning from the above, they believe that eclampsia develops as follows: An overload of fetal elements is thrown into the circulation and is autolyzed with an excess of leucin, then follows the changes in the liver and kidneys. "It appears from our experiments that albuminurea is an important sign, since severe renal degeneration seems to be the important lesion."

The results of these experiments would seem to add further evidence that we are going in the right direction and that the fetus or placenta or both will eventually become the established source of that dreaded malady, eclampsia.

6. There can be no doubt as to the great advantage of ascertaining by external means the necessary information as to the position of the child in the last few weeks of pregnancy and in actual labor, also of determining the progress of labor by noting the position of the contraction ring, or ring of Bandl. The advantages are of course obvious, yet we cannot help mentioning the one great one, that is the material reduction of the number of internal examinations a given case will require during labor, in fact in many cases reducing the number to zero, thereby diminishing the chances for infection in a like proportion.

In the September number of *Progressive Medicine* we find the following: "Unterberg (German) has devised a plan for determining the degree of cervical dilatation based upon the location of the contraction ring, or ring of Bandl, which is the point of union between the upper and lower uterine segments. While the

ring is not strongly developed in all cases, yet it is always present and may be recognized by having the bladder emptied and examining during a pain, when the difference between a thin elastic lower segment and the sharp edge of an upper segment becomes plainly apparent. When this muscular edge is two fingers' breadth above the symphysis, the os is dilated to the size of a silver dollar, when three fingers above, it is as large as a small saucer and when four fingers above, full dilation is completed. At this time the rings extend squarely across the uterus in a normal case, and not obliquely as when the lower segment is excessively distended."

This last point is equally important, for here we have an indication that there is danger of a uterine rupture and we may govern ourselves accordingly.

7. *Twilight Sleep*.—So rapidly has the literature accumulated and so recently and thoroughly has this subject been discussed before the society that it seems best only to draw a few conclusions and then pass on. (1) The scopolamin-morphin treatment has a distinct place in obstetrics. (2) The requisites for its administration are such that its field of usefulness must necessarily be limited. (3) Special hospital facilities and specially trained nurses are necessary. (4) The general practitioner will not find it practical, for four reasons if not more: (a) the lack of proper environment in the average home; (b) the lack of trained assistants; (c) the inability to give the constant and required hour by hour attention to the case; (d) the inability to collect a fee which will in any way compensate for the time and skill required. (5) An absolute control of the patient and not only of the patient, but her entire family, her relatives and her friends as well would seem necessary. (6) Last, but by no means least, it should not be used indiscriminately, but the cases should be individualized for most certainly will we find psychical and physical conditions which will furnish counter indications as well as indications for the use of the twilight sleep.

8. *Pituitrin*.—There can now be no doubt in the minds of those who have watched the effect of the drug that it has an important place in our obstetrical technic, but to remain content with the knowledge that it will augment uterine labor pains and expedite the birth of the child is dangerous to the extreme and has led and will lead to its use in cases in which it is absolutely contraindicated. To illustrate this point we may cite a case in which occurred in prompt sequence transverse presentation, pituitrin, rupture of the uterus, and death of the patient.

A normal presentation, complete effacement and dilatation of the cervix, an absence of any

disproportion between the child and maternal parts, preferably but not necessarily a multipara, a uterus that is lazy and lagging and a case in which a forceps delivery seems most likely to become necessary furnish the indications for the use of pituitrin, the contraindications being obvious. Furthermore, the accoucheur should be ready to administer a general anesthetic and to do a rapid operative delivery if the uterine contractions become so violent as to make a rupture imminent, or for any other cause.

While pituitrin does not take the place of hypodermic ergot, it will nevertheless be found a valuable aid in postpartum hemorrhage.

9. *Ophthalmia Neonatorum*.—Here again we owe much to the lay journals, magazines and daily press, and as time passes more and more of our lawmakers appreciate the definite relation between blindness and gonorrhea and each year adds to the number of states in which the law demands that every newborn child shall have instilled into its eyes immediately a silver solution, the best known preventive for gonorrheal ophthalmia. Missouri is one of the states which has adopted the law.

Dr. E. P. Davis, Philadelphia, in the September number of *Progressive Medicine* says: "All ward cases and private cases with a suspicious vaginal discharge received one prophylactic irrigation at the beginning of labor of lysol and tincture of green soap combined. After delivery, the child's eyes are cleansed with boric acid solution and argyrol is dropped in each eye. Conjunctival catarrh occasionally develops and in rare instances gonococci are found, but severe ophthalmia is unknown and permanent damage is of the rarest occurrence."

This is worthy of our attention.

10. *Puerperal Infection*.—Dr. E. Gustav Zinke, Cincinnati, in his address before the obstetrical section at the American Medical Association meeting last June quoted an article read in New York on eclampsia: "The practitioner who seeks to learn from medical literature how the toxemias of pregnancy are best treated may well feel that he has authority for the most radical treatment on the one hand and for shameful neglect of the patient's interest on the other."

We believe that the same may be said of puerperal infection. In looking over the committee report on the treatment of puerperal sepsis made at the June, 1913, meeting of the American Medical Association it is noticeable that there is a difference of opinion as to the active and the conservative plan of treatment, but the general trend was toward conservatism. Yet, reading between the lines, one cannot but be impressed with the fact that no fixed rules can be followed and that each case must be individualized and treated accordingly. The same

is true today with an increasing tendency toward conservatism. Meddlesome midwifery is more reprehensible today than ever before and to meddle with a parturient before she meddles with you is utterly inexcusable, yet an occasion must arise at times when active measures must be adopted and the writer personally is not willing to sit calmly by and watch a patient going from bad to worse without instituting some radical measures.

Fortunately our modern management of labor is greatly reducing our percentage of postpartum infections, yet they do and will occur in spite of us.

A foul stinking lochia which scents up the whole house, a rising temperature and a rapid pulse may continue a few days, but if the Fowler position, ergot and massage do not bring the desired result in a reasonable time it seems that the time has come when more active methods are in order. True, we should all know that the placenta has been expelled in its entirety and the membranes, yet who does not find that occasionally this is not the case?

The Sloane Hospital in New York in its report this year tells us that its treatment of these cases is an active one, vaginal and intra-uterine douches and digital explorations of the uterine cavity.

Barton Cooke Hirst, also in a paper published in *The Journal of the American Medical Association*, June 13, 1914, advocates an equally active procedure. On the other hand, Dr. DeLee says that those cases which are left to nature with good nursing do far better.

The truth is no doubt to be found in the midplane and *undertreatment* will unquestionably give better results than *overtreatment*. In prophylaxis, let eternal vigilance be our watchword.

The investigations of Billings, Rosenow and others regarding the various strains of streptococci and of other organisms as well, and the relations between focal infections by these agents, usually in the head, and systemic disease, will undoubtedly in time settle the origin of some cases of puerperal infection. This work opens up a broad field and unquestionably will sooner or later have a direction bearing upon our puerperal problems.

11. *Serodiagnosis and Serum Therapy*.—There can be no doubt that we have in the Abderhalden test, properly carried out, a most valuable aid in determining the question of pregnancy, and while in the vast majority of cases nothing more will be required to establish a diagnosis than the element of time plus the usual signs, yet cases will come under observation in which the test will be of great value; for example, suspected extrauterine pregnancy and obscure pelvic tumors which have taken on a sudden growth.

While reports of various series of cases give a large percentage of correct reactions, yet it is not 100 per cent. perfect. Several cases have come back positive and have later proved to be tuberculous pyosalpinx. The same is true of syphilis and even in males. It seems that the error is most frequently on the positive side. Obviously, the test is a delicate one and requires an expert.

Dr. W. K. Trimble, pathologist, University of Kansas, reports the following: Twenty-four cases with a positive Abderhalden reaction, all of which were later proved to be correct. In this series twenty-four controls were used of which twenty-one were negative, one positive and two faintly positive. In four cases of suspected extrauterine pregnancy all give a positive reaction. Of these cases, two proved to be ectopic by operation, and one a normal uterine pregnancy, the other proved to be neither.

Of seven cases diagnosed as pelvic disease, five gave a negative reaction, and two positive, the latter proved to be uterine pregnancies. In one case, that of the writer, in which the clinical signs were almost typically those of a tubal gestation, the reaction was positive, but the case proved to be an ovarian hematoma and histologically not an ovarian pregnancy.

Serum, either human or equine, has given some good results in the treatment of certain toxic conditions of pregnancy, e. g., urticaria, prurigo, erythema, pernicious nausea with icterus and even eclampsia.

Twenty to forty cubic centimeters are given at a dose and as high as 116 c.c. in a case of eclampsia. The serum from other pregnant women is also used.

Ringer's solution, made up of the sodium, calcium, and potassium chlorate, sodium bicarbonate, and distilled water, also has given good results in skin lesions complicating pregnancy, 150 to 200 c.c. of the solution being introduced intravenously.

In puerperal infections serum therapy appears to be quite universally disappointing, though it still has its advocates. The same may be said of vaccine therapy.

In closing this report we realize that there are many points which could with profit be considered, such as the correlation between thyroid disease and pregnancy, the different stages of labor with special reference to posture, protection of the perineum and retention of the placenta, symphyseotomy, episiotomy, care of the newborn and so on almost indefinitely, but the time being already more than exhausted, if the interest and efforts in behalf of the prospective mother and her babe have been stimulated, the report will not have been made in vain.

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FACTORS OF SAFETY IN GOITER OPERATIONS*

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In lessening the risk to life, surgical judgment is the most important factor, while the integrity of important structures is chiefly conserved by operative skill; but both factors are interdependent.

For the operative treatment of goiter many individual rules and general plans have been formulated, but the status of accepted facts has changed little in any particular since Kocher's earlier presentations.

Refraining from radical operation during the height of crisis, in the presence of grave degenerations or functional disturbance of vital organs, is the most important working rule at the surgeon's disposal; and if faithfully followed he will eliminate much perplexity and anxiety and many of the operative deaths, but not all.

A more important factor, but one rarely within the surgeon's control, is to do necessary operations at an earlier period of the disease, before goiters reach the intensely toxic stage, before they cause degenerative changes in vital organs, before they have become fixed in positions that render their removal essentially difficult and dangerous.

With many the lack of recognition of the surgical indications and of brilliant operative results that may be obtained in appropriate cases still causes them to treat medically goiter patients that can be far more safely and quickly relieved by the surgeon. With others the operative risk is the main thing that has deterred them from referring their goiter patients to the surgeon until the need of surgical relief has become too evident, and it is because they are referred to the surgeon late in the disease that there is this essential risk. It is a vicious circle that is to be broken by better understanding and by more discriminating surgery. We cannot dictate to the physician how he shall treat his patients, but he is easily led to surgery where surgery can show results and one of the most important of all results is a low operative mortality.

The high death rate that is to be found in the earlier goiter operations of many good surgeons was not due to lack of operative skill, but to doing radical operations upon patients who were at or near crisis, and the subsequent relative freedom from fatalities later in the same series is not due to improvement in technic, but to getting the patients earlier and to better selection and preliminary treatment of the cases.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

Exophthalmic goiter, which has been the great surgical bugbear, is a disease that in probably 50 per cent. of cases is self-limited in its period of marked intoxication, and under almost any form of treatment the mortality early in the disease is not high; but if operated upon indiscriminately the immediate death rate from post-operative hyperthyroidism may be extremely high, therefore the continued prevalence of its medical treatment. On the other hand, most of those who survive crisis may develop ultimately fatal degenerations and at best suffer invalidism more or less pronounced for years, while surgery offers a relatively quick cure, the completeness of which will be in inverse proportion to the preoperative damage and the safety of which will largely depend upon the discrimination of the surgeon. The intoxication in this particular form of goiter is prone to crisis and it is during the periods of pronounced or approaching crisis that most patients are referred to the surgeon, and it is during this time that a radical operation may precipitate the fatal termination it was intended to ward off.

The symptoms of exophthalmic goiter, Basedow's or Graves' disease are at first a period of mental stimulation or excitation which is most characteristic and, I might say, never absent. With this comes any or all of the following: nervousness, muscular weakness, tremor, tachycardia, loss of weight, sleeplessness, sweating, increased pulse pressure, skin and eye changes, diarrhea, vomiting, mania, jaundice and coma; with these there may be pronounced changes in other ductless glands along with heart dilatation and degeneration, nephritis and glycosuria. Goiter vomiting, real mental aberrations, jaundice and coma are extremely grave and approximately terminal symptoms; while any of the other symptoms, when very pronounced, should warn us that the patient is a poor risk for primary radical operation. Granting that no matter how intense the acute crisis, the patient stands some chance of coming out of it without operation and that the more pronounced the intoxication the less chance the patient has of withstanding operation, it stands to reason that with some exceptions these severe and even the doubtful cases should not be subjected primarily to radical surgery. The exceptions are patients who have slowly and progressively gone to the extremely grave stage. These patients stand little chance of recovery without operation and there is an essential risk in operation. What is the answer? Many have been proposed. Rest and Medicinal treatment until the crisis is past? In some few this appears to be the only available course, but it means a period of tedious waiting with a possibility of increased degeneration or death from intoxication; we have all seen such instances. Further, improvement that follows a period of

resting is not necessarily an indication that the patient will stand radical operation. We have been sadly fooled by just this circumstance and now prefer to gage our patients on their feet when subjected to the normal irritation of ordinary life.

Crile's plan of "stealing" a goiter is very successful in his hands, but Crile is an exceptional surgeon, working on a plan that has been evolved where it is practiced. This scheme is complicated and unless there is perfect understanding and coordination between all the people concerned there is apt to be serious mishaps that may spell disaster. However, part of Crile's method may be worked into our own plans to advantage and I believe there are few operators who have not been advantageously influenced by his principle of shielding the patient from avoidable worry.

The ligation of one or several of the thyroid vessels is one of the oldest, the most tried and the most popular of all conservative or preliminary operations. The results of these ligations are almost uniformly satisfactory. The intensity of all symptoms subside, the gastro-intestinal symptoms should disappear entirely, the tachycardia becomes less, the patient will gain maybe twenty or thirty pounds and the muscular weakness will be greatly relieved. Sometimes these results are almost immediate; in other cases the improvement is more gradual; but usually in three months a patient will be in good condition for a thyroidectomy, which can then be done with relative safety as far as postoperative hyperthyroidism is concerned. If the intensity of the symptoms is not sufficiently controlled, especially the gastro-intestinal, then other vessels should be ligated. Another advantage of preliminary ligation is the gage it gives as to the postoperative reaction of the patient, and for this reason we are adopting it more and more as a routine procedure even in the apparently mild cases. It is not always possible to judge the patient's resistance and even apparently quiescent cases may show a terrific postoperative reaction. If one pole of the goiter is ligated and the patient shows no reaction then one may safely do a thyroidectomy a week later, but if there is a definite increase of intoxication following a simple ligation it is reasonable to conclude that it is a safer procedure to ligate another vessel and wait for the resulting improvement before doing a radical operation, which latter should be done within three or four months after the ligations, as after this period the patient may relapse. While the results of preliminary ligation are almost uniformly good, the reactions are not uniform and it is in itself not entirely free from danger in extreme cases. We have recently had an apparently mild case in which ligation was done rather as a matter of routine, and after operation the patient vomited

continuously and did not sleep for thirty-six hours after a single ligation under a local anesthesia, in which she suffered neither pain nor excitement. A second ligation done a week later caused no reaction.

Simultaneous bilateral ligations should not be done. In Frazier's recently published series of one hundred goiter operations the only two fatalities followed double ligations; we have had a similar experience.

One disadvantage of preliminary ligation is the adhesions encountered at the thyroidectomy.

Porter's plan of injecting boiling water is undoubtedly efficacious in limiting gland activity and most applicable to cases that are too toxic even for a ligation, and for operated cases in which insufficient tissue has been removed and when for some reason a secondary thyroidectomy is not advisable. As a rule secondary thyroidectomies are remarkably well tolerated, but recently I lost a patient on whom I had previously done two ligations and removed two thirds of the gland.

In dealing with exophthalmic goiters the possibility of increasing toxicity leading to crisis must not be overlooked. The patients may be more toxic months after the gland has been successfully removed than they were before.

The problems presented by severe exophthalmic goiters will often demand the nicest surgical judgment, and he who attempts to stem the course of some of the gravest cases will sooner or later meet with defeat no matter what precautions are used.

Simple goiters, toxic or otherwise, present somewhat different problems; here there is not the danger of postoperative hyperthyroidism, but in many the location of the goiter or the presence of degeneration from toxemia or obstruction renders the operation hardly less dangerous. Even in the toxic type preliminary ligations are of little or no avail; if degenerations have occurred, the preliminary treatment is directed to nursing the damaged vital organs. Obstructive goiters must be operated upon and the patient and surgeon must take the risk.

The anesthetic is a serious matter and there is no doubt of the truth of Kocher's contention that ether adds to the gravity of the operation and local anesthetics lessen the danger, as a rule; but there are cases when local anesthesia is impractical and to attempt its use on a patient too nervous to submit voluntarily only adds to the danger. Many exophthalmic patients take a general anesthetic badly because of the thick mucus that is secreted in the bronchi and seriously interferes with aeration. This may be controlled by the preliminary use of atropin or by an intratracheal anesthesia, and in the presence of tracheal pressure or collapse the intratracheal tube is the greatest factor of safety.

The preliminary use of morphin is of mooted value. In many cases it certainly helps to quiet the patient, but Kocher feels that it is open to the same objections as ether. Scopolamin with morphin will render many goiter cases absolutely quiet and tractable, but in a few will cause such excitement that the operation will have to be postponed. Nitrous oxid gas, by itself or with oxygen, will hold probably only those mild cases that could safely receive ether.

The use of a local anesthetic in conjunction with general greatly lessens the amount of the latter required, the general anesthetic usually being discontinued as soon as the tumor is removed.

In matters of technic, the closer one adheres to Kocher's plan of operation, I believe, the safer will be the operation.

In women who have a fair-sized or large, symmetrically placed goiter, great deformity results from the removal of one lobe. Here a median resection of both lobes is almost compulsory, but a resection is, in general, a more dangerous operation than is the clean removal of one lobe. In doubtful cases it is better to remove one lobe cleanly and, if necessary, to resect the other lobe later. Secondary operations are usually well tolerated.

The recurrent laryngeal nerve and the parathyroids are best conserved by preserving the posterior part of the capsule near the entrance of the inferior thyroid artery, retaining some gland tissue; in doing this the bleeding is most safely controlled by ligating this artery in its course. Accurate control of bleeding and gentleness in handling the tissues are important; hemorrhage and rough handling both conduce to technical blunders and to postoperative disturbance.

In a series of thyroidectomies in which was practiced Crile's plan of a complete extracapsular extirpation, though in all instances we could isolate the nerve, we had a number of temporary and one permanent palsy. It should be remembered that the nerve lies in the gland capsule.

Kocher condemns the use of antiseptics, but rather than disturb the patient by local preparation before operation we use a weak iodine solution, which is immediately removed with alcohol.

Before operation the patient's functions should be in the best possible condition and the free use of water per rectum, intravenously or subcutaneously may help control intoxication.

Goiter in pregnancy presents some special considerations. Judd has made the observation that here an exophthalmic goiter is apt to recede spontaneously late in the pregnancy or go on to crisis and carry off the patient; that if a thyroidectomy is done, the patient is apt to miscarry and die about the seventh month. To avoid the

latter and to favor subsidence, he does only one or several ligations. We have done several thyroidectomies early in pregnancy, some without recognizing the woman's condition, with benefit to the mother and without interfering with the conception.

Our observations of goiters, operated and unoperated, have led us to conclude that with few exceptions, aside from adolescent goiters, the earlier thyroidectomy is done the better it is for the patient; that even in young girls almost total removal of the gland produces little risk of hypothyroidism; that removal of sufficient tissues cures the toxicity of exophthalmic goiters regardless of what other ductless glands may seem to be related to the syndrome; that with proper precautions, excepting some of the more advanced cases, thyroidectomy is an operation of little intrinsic danger.

Metropolitan Building.

THE SURGERY OF GOITER*

ROLAND HILL, M.D., C.M.
ST. LOUIS

When it is considered that according to estimate there are between two and four millions of cases of goiter in the United States alone, the importance of all studies of the thyroid question may readily be recognized.

The surgery of goiter has been developed in recent years to a very high degree of efficiency. In the early work in this branch of the surgical art the mortality was appalling, but with improved technic and experience it has been found that the field is a comparatively safe one.

From the standpoint of operative surgery the indications for interference in goiters of the simple and those of the toxic and exophthalmic types are so divergent in character that the two forms may well be considered separately.

By simple goiter we mean those not giving rise to toxic symptoms although we know that many of them may have ultimate toxic changes. Simple goiters are subject to operations for three principal reasons: first, cosmetic; second, to prevent the effects of pressure; third, as a prophylaxis against becoming of the toxic type. While simple goiters may be subjected to operations for cosmetic reasons, a great cardinal indication is pressure.

The pressure symptoms resulting from large goiters, especially of the substernal type, are of great importance. The heart is damaged by direct pressure on parts passing through the superior thoracic strait. Marked dyspnea and sudden death occur at times as a result of flat-

tening of the trachea from mechanical pressure. At times an irritable cough results. There may be paralysis of the vocal cords. The pressure on the veins from the face may lead to severe congestion and edema in this region. The back pressure on the veins may also lead to interference with the mentality of the individual.

Another important but fortunately rare condition is cancer. A simple goiter that has lain dormant for years and suddenly enlarges very rapidly is suspicious of malignancy. This was illustrated in one of my own cases. The patient was a man 72 years of age. He had had a small, apparently benign, goiter for forty years. It suddenly started to enlarge and in three months was causing pressure symptoms so severe that he could not lie down. In this case I did a resection of the diseased area and the patient is still comparatively well after a period of five years, although the growth was adenocarcinoma.

As a rule it may be said that goiters of adolescence may be carefully watched and let alone as they are more likely to be physiological than pathological and tend to decrease in size or disappear in a few years. On the other hand, the adenomatous goiters are so prone to exophthalmic symptoms that they should be subjected to operations if they become at all suspicious. These goiters show practically no tendency to disappear and at least 25 per cent. of them later become thyrotoxic.

While it was formerly our object to remove one lobe and leave the smaller one the tendency now is to remove adenomas from each side. These usually occupy the anterior aspect of the thyroid; and it is often quite possible to remove distinct masses from each lobe. The adenomatous goiters also tend to form great and obstructive enlargements from mechanical pressure alone. Cysts may develop in large masses sufficient to cause obstruction of the superior thoracic straits.

The colloid goiters form a uniform soft enlargement usually affecting both lobes. These do not have any tendency to produce exophthalmic symptoms and may be let alone unless they get so large as to cause mechanical obstruction.

The most serious and complex of the surgical problems of goiter arise when we attempt to study the exophthalmic type. These goiters are supposed to be so modified in character that the secretion becomes poisonous to the organism and gives rise to a series of symptoms of a more or less definite character. The size of the goiter seems not to have any particular relation to the severity of the symptoms. In one of the most dangerous of these cases that ever came into my hands the enlargement was so slight that the gland might have been looked upon as being of absolutely normal size. In this case the exophthalmos and tachycardia were extreme,

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

while the gastric symptoms were so severe that one physician who had treated the case made a diagnosis of abdominal aneurysm.

Much may be done in handling these cases by rest in bed for long periods of time; but the results are very uncertain and not nearly so prompt as those secured by proper surgical measures.

The best treatment for these conditions seems to be the cutting off of the excessive secretion of the thyroid by surgical measures, followed by a more or less prolonged medical observation, and treatment consisting largely of rest in bed and measures destined to build up and restore organs and tissues that have been impaired. It is estimated that at least 90 per cent. of cases of exophthalmic goiter are markedly benefited by surgery.

Surgical measures consist in removal of a certain amount of the gland tissue. The amount removed will depend largely upon the severity of the symptoms and upon the environment of the patient after operation. When patients cannot take proper rest and care it is always a better plan to remove more of the gland than in those who have more leisure.

Excision of part of the gland may be done as a one stage operation, or it may be done in two or three stages. It is a well-known fact that an initial and radical operation in a bad case of exophthalmic goiter may lead to a fatal termination; whereas the same case may be relieved by ligating a vessel at the first operation, and if needed, after an interval, a second vessel may be tied, to be always followed, however, by an excision of part of the gland tissue.

When one or two vessels are ligated the patient becomes much safer as an operative risk and excision may be resorted to with a much greater degree of safety than if it is done at the initial operation.

It is sometimes very difficult to tell whether one should simply ligate or do at once a radical operation. Several factors must be taken into consideration the basic element of which, however, will be the condition of the heart. If one is in doubt as to how far to go, a ligation should always be done, as it is always best to have a living patient after two operations than a dead patient after one. As a general rule if the heart is dilated one inch and rapid in its action, running over 125 beats per minute, a ligation will be found safer than excision. Where the patient has become dropsical, ligation must be undertaken with care. Exophthalmic cases with fever are bad risks. Large adenomatous goiters with exophthalmos must be carefully considered before the radical operation is done. Cases with symptoms of acidosis, notably vomiting and diarrhea, are very bad risks and should be treated by multiple operations. Cases with extreme nervous symptoms with great tremor

and much disturbed eyesight should usually be treated by primary ligation in preference to thyroidectomy. Mental hallucination must be considered as unfavorable for radical operation. These cases of exophthalmic goiter, however, when properly handled, usually gain very materially in weight and strength, and give some of the most favorable results in surgery.

In regard to the technic of operation in these cases, this must be learned in the operating room. Preparation before operation by rest and diet is absolutely essential in bad cases, and operation should not be done during a period of exacerbation, if it can possibly be avoided. Mental quietude is very essential. Morphine is invaluable, as it quiets the nervous system and controls acidosis.

As a means of controlling some of the nervous symptoms in severe cases must be mentioned the hot water injection advocated by Dr. Miles F. Porter of Fort Wayne, Ind. Dr. Porter has injected from 40 minims to 3 drams of boiling hot water into the thyroid tissue of a number of exophthalmic cases with marked benefit. In some of these cases multiple injections have been made. It does not seem as though this method should supplant thyroidectomy but rather act as an adjunct to get the patient in condition for operation. When the thyroid symptoms are extreme these injections may be made under local anesthesia or by freezing the part, and in cases handled by Dr. Porter there seems to be no trace of any ill effects.

Crile claims to lessen the shock markedly by his method of nerve blocking and a gas oxygen anesthesia given when the patient is not expecting to be operated upon. He gives these patients the anesthetic in their own rooms. The patient is taken to the operating room, operated upon and returned to bed in a still unconscious state. In this way afferent impulses from the field of operation are nullified and much of the nervous fear is avoided. There is undoubtedly a very important factor to be obtained by this method in some of the more desperate cases.

In all these operations on exophthalmic goiter the handling of the tissues should be extremely gentle and the greatest care must be taken in hemostasis. Every care must be taken to avoid the recurrent laryngeal nerve, which runs along the posterior aspect of the gland. Rough handling of this nerve interferes temporarily with the voice and when cut a defect in the voice is permanent. The rough handling of the gland in these exophthalmic cases leads, at times, to the most alarming heart symptoms. The heart practically runs away with itself and the patient dies. Hemorrhage is another factor of the greatest importance and every effort should be taken to avoid it. The glands are so vascular and the blood pressure so high that hemorrhage

is more to be feared than in almost any other class of cases.

To summarize the dangers of goiter surgery, we have (1) the anesthesia, (2) the shock, (3) hemorrhage, (4) hyperthyroidism; (5) infection, (6) injury of the recurrent laryngeal nerve, (7) injury of the parathyroid glands, (8) air embolism, (9) collapse of the trachea, (10) myxedema.

Local anesthesia may be used with simple ligation, but whenever extensive work is to be done it would seem to me that simple ether anesthetic, or the method of Crile is the most desirable.

Hemorrhage, as above stated, is most important, and the greatest attention to detail is necessary in order to prevent it. Very free bleeding may result in the most experienced hands. The most difficult cases of hemorrhage I have ever had have been in the secondary operations in goiter of the exophthalmic type. It would seem to me that the part left, after a primary operation, is unusually vascular and liable to cause the most severe bleeding.

Injury to the parathyroids should be avoided by keeping well within the capsule. When these are removed there is a tendency to develop myxedema.

Collapse of the trachea may occur after the removal of a large growth and may have to be met by tracheotomy.

Hyperthyroidism is apt to occur if a radical operation is done in a bad case. The heart increases in frequency and may continue at such a rapid rate as to lead to exhaustion and death.

In operating upon exophthalmic patients it has been found that at least one sixth of the gland should be left. Cases that develop mild symptoms of myxedema are treated by the administration of calcium salts.

I have operated upon between thirty and forty cases with one death and that was practically moribund at operation. The excellent results secured by surgery justify the belief that we can avoid the chronic invalidism so frequently observed without surgical effort.

The mortality in goiter surgery will depend very largely upon the experience of the operator in selecting the time for operation, the careful execution of the operation itself, and the after treatment of the case.

A word of warning is necessary in regard to early operation in cases giving severe ophthalmic symptoms. When there is much delay the whole organism may suffer. Heart dilatation may take place and kidney lesions may occur, so if the operation is long delayed it may be quite possible to cure the original trouble and yet have sequelae remain which may be of the most dangerous character.

The end results of goiter surgery are excellent. In simple goiter the trouble is eradicated. The vast majority of the exophthalmic type, while very much more complex, respond rapidly to surgical measures. It is estimated that from 85 to 90 per cent. of these cases are restored to an approximate degree of health. Even when cure is not attained the benefit is so great that the patient is restored to a sphere of practical usefulness.

Lister Building.

DISCUSSION

DR. W. T. COUGHLIN, St. Louis: I feel a good deal as the boy at high school felt when the judges in a final competition on oratory allotted him his place, saying, "So-and-So will now address you; his time is three minutes and his subject is the immortality of the soul." I feel my own incompetence when I am called upon to discuss the subject of safety in goiter operations, but I beg you to remember that I do it by request.

First, as to the selection of the case. Incidentally, we do not have the selection of the case in our hands. The case is sent to us whenever the consultant thinks it should be and when he brings a case he expects you to operate because he thinks the operation is indicated. As a matter of fact, perhaps operation is indicated, but perhaps it is very distinctly contraindicated. If it were possible to educate the profession up to the point of sending the patient just as soon as the patient fails to respond to medical treatment, the work of the surgeon in the selection of his cases would be much simplified; but, unfortunately, the case is very often medically treated, and that means that sometimes the rest cure, sometimes iodine injections and sometimes hot water injections, one or all of these are given long before the patient is brought for surgical treatment; but they come to surgery eventually, too many of them in a hopeless state.

If the goiter has developed very rapidly it is just as well to let it alone. The exophthalmic type which develops very suddenly has not been very much benefited by surgery. The most dangerous case is the rapidly growing, the rapidly developing exophthalmic goiter in which the patient has reached the bed-ridden stage, and who shall say when we should operate and when we should not? It is a very difficult question for even the most experienced, and one who is less experienced has a great task before him. I think this: If the patient fails to benefit by some rest in bed, if he, or if she—for the patient is usually a female—fails to benefit by rest, surgery should not be undertaken. I have never seen a surgical operation succeed where the patient did not respond to the rest cure. The patient may respond to a certain point and then fail to respond. If the patient goes much beyond that period with medical treatment then I think the favorable opportunity has been lost. Crile's method of stealing the gland is good. In the simple, adenomatous type of goiter death may ensue after operation, and I think in such case death is due to hemorrhage, shock or to postoperative hyperthyroidism. I have seen the most marked hyperthyroidism follow an operation on a case of simple goiter.

I prefer the local anesthetic and have used none but novocain with adrenalin. But I always use either morphin and atropin, morphin and hyoscin or morphin and scopolamin to the point of good narcosis before beginning. I have not used a drain in two years. We flush the patients with water for the first twenty-four or forty-eight hours and have had no post-operative hyperthyroidism.

DR. ROLAND HILL, St. Louis (closing): It has been found recently, I believe, that there is a small percentage of cases in which surgery does not seem to be of benefit, and in these cases the thymus appears to play some part. At the present time Baetcher of Johns Hopkins is experimenting with the Roentgen ray over the thymus with the idea of overcoming that extreme depression which occurs in this small percentage of cases. One of the main facts in thyroid surgery, especially in dealing with the exophthalmic type, is that cases are held too long by physicians before they are sent to the surgeon. One surgeon in this country doing a great deal of thyroid surgery told me he had refused to operate on twenty-two cases that had been referred to him. I cannot quite agree with that attitude, because some of these patients lived as long as three months and surgery might have enabled them to live a number of years. If there is one point in the whole field of goiter surgery that I think ought to be emphasized, it is the fact that goiters giving rise to nervous symptoms, especially in women over 25 years of age, should be seen by the surgeon before very marked degenerations here have occurred.

BYWAYS OF MEDICINE*

EDWARD C. WITTWER, B.S., M.D.
MOUNTAIN GROVE, MO.

This is a day of agitation for good roads, a movement in which all physicians are interested and especially those of us who are country doctors.

Science may be compared to a great system of highways and modesty will permit us the use of the figure of a main line or trunk line to typify regular medicine and surgery, for surgery is a therapeutic measure.

Just as there are many branch roads and byways diverging from, crossing and paralleling the main traveled highways between centers of population, so too there are byways of medicine leading in the direction of the practice of the healing art; and as the byways of travel frequently merge finally into the main traveled roads, so too do the byways of medicine tend finally to merge into the main line of general medicine. Some of these paths have coincided so long and so far that we have nearly forgotten they were originally pioneer trails. This is notably true nowadays of the homeopathic and eclectic byways.

All these roads are toll roads, in a sense, but the toll is by no means uniform. To travel the regular highway we must qualify with the minimum admission requirements at least. Only one homeopathic gateway, and that a school in New York, and only one eclectic, the parent school in Ohio, require so much for admission and those are practically compelled to do so by the states in which they are located.

The toll gates and byways of osteopathy still offer a shorter cut to practice, which, by the way, is the aim of the sojourners on these byways.

Some self-appointed iconoclast with a whispered call to right an occasionally real but generally fancied wrong, and with a passionate desire for notoriety and spoils, exalts a therapeutic theory, a manual trick, or psychic claim into a school of therapy and finally into a system of special practice. Thus is the child born. It starts out through the wilderness blazing another path, a byway of medicine. All these one-idea schemes so magnify their peculiar procedures as to minimize the importance of general fitness and preparedness for the practice of medicine.

Their founders have all been tempted by the prospect for fame or fees from students who wish to enter practice by a back door. Then, too, they have perhaps been further influenced by a desire to see their propaganda flourish numerically. At any rate, about the only admission requirement for the study of these systems is now and has always been the price of tuition and a narrow zeal. Indeed, the great majority of practitioners of the newer and more blatant cults, isms, and pathies are taught, if taught at all, by lax correspondence instruction.

The chiropractors, optometrists, suggestionists, and naturpaths, as well as the rest of the "57 varieties" of peculiar practice, are all busily engaged trying to convert a hog path into a main traveled medical highway.

Before studying medicine, I read several books on the leading cults and pathies, including Christian Science and oriental occultism. I have read a few more since then. The symbols in this hall remind me of much teaching, having to do with ancient scientific concepts. Agreeable to this teaching, I admit that life offers two highways, the one to the right, the one to the left, that nature acts in two directions, that there is a polarity in everything, a positive and a negative phase, as it were. On account of this, and not in spite of it, we all wish to know the truth, for the truth shall make us free.

Scientific medicine is a struggle toward the light, but we have not learned it all, and never will, on this plane of action at least. Science has made a few dogmatists because man's pride of intellect will not always let him confess his ignorance. We are too prone to think our little discoveries are ultimates and our conclusions absolute. We possibly think sometimes as individuals that we have come to the end of the road; but science leads on, and on—shall I say to eternity?

You are all as familiar, perhaps, with some of the various byways, hog trails, and calf paths of medicine as I am, but let us look for a moment at some of the general claims of a few

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of the recent aspirants for medical license—especially by exemption.

The chiropractors are practitioners of a scheme of manual excitation of nervous reflexes and direct muscle stimulation by massage plus a very large amount of suggestions. The celebrated thrust, of which we hear much, is a rough method of stimulating nerve centers. It is well known to all who have used electricity or the vibrator that inhibitive effects may also be secured by such methods. But all of this and much more does not justify the legal establishment of a new school of practice under an obscure name and a catchy advertising slogan. Personally, I believe that the advocates of spondylotherapy in our own ranks have carried this measure quite far enough. It can not be urged that some of us at least do not practice these methods.

In a general way the same will apply to all of the proved procedures of all the newer pathies, naturpaths, diet faddists, Christian Scientists, optometrists and all. Progressive physicians are familiar with and use consciously and unconsciously the principles of these so-called systems.

Our attitude should therefore be open minded as to all truth, but this by no means indicates that we should legalize any more bastard schools, because their teaching is tinged with discolored truths. Some of their advocates accuse us of pouring out the baby with the bath because we have learned to insist on proofs of merit in remedies and measures. By this they mean that we secretly repudiate drugs and rely solely on the healing force of nature. They lay themselves open to the same charge, however, since the same percentage of cases that will recover without treatment falls into their hands as come into ours. Indeed all their cures which I have had a chance to study have been in patients whose main ailments were above the foramen magnum.

The character and numbers of psychoses and other mental cases can not fail to impress us with the importance of psychology even to the general practitioner. Just here I will remark that if one wishes to get a new and different view of man's relation to nature a treat awaits him if he will read the "Harmonic Series," edited by Huntley and published by the Indo-American Book Co. of Chicago.

As to this sort of therapy, a few books will quickly give one an ample fund of information and even a good knowledge of the application of these methods. Nor need one go outside of the regular fold to get the gist of the whole matter. One may get some information and even more amusement by reading a few of the irregular classics, if this term is permissible; besides it will tend to develop a broad tolerance, which will lengthen one's days. The regular

texts and monographs are too numerous to list here, but the subjects are relatively few. They are, in the main, hydrotherapy, spondylotherapy, psychotherapy, electrotherapy, massage, etc.

A little reading along these lines will repay any general practitioner though he has not the time or the opportunity to practice them. They will review his physiology and give him a better understanding of his favorite drugs, make him broader minded and thereby a better physician.

But, as for us, let us still stand for the protection of the people from ignorance and fraud, thankless task though it be. Let us be true soldiers of the common good, advocating and advancing preventive medicine as well as curative, realizing that medicine is a social service. Let us insist on high standards of preliminary education, higher standards of medical education, and the highest standards of moral character on the part of all who would travel the highways of medicine to the end that the byways may become grass grown and forgotten.

DISCUSSION

DR. J. S. WALLACE, Brunswick: I would like to make a few remarks in regard to the rough and rugged road that my friend Dr. Allee and I had to travel in the state senate as members of the eleemosynary committee and in regard to the chiropractics and the optometrists. Those gentlemen flooded the seats of the senators with remonstrances against us and our committee and against their bill being sent to us. They made all sorts of criticisms and unjust remarks about our preventing them from coming before the committee.

The doctors over the state should take more interest, show more energy and more action and send representatives to the legislature who will not favor those who stand for these fads and isms.

I want to say in regard to the senators from St. Louis that Senators Anderson, Waner, Welch and Kinney were right with us in all our efforts to give the "twilight sleep" to undesirable bills that came before our committee.

DR. W. S. ALLEE, Olean: I will speak first as a doctor. I do not know that I have had much success as a senator, possibly not much as a doctor; however, my love and loyalty for my profession always leads me to prefer being designated as a doctor to any other title. My service in the senate has not been altogether pleasant. There are many good members of that body, fair men, who are willing to go to their family physicians for advice and some of them were kind enough to be governed by my advice on public health questions. My position in the senate was that on all legal questions I looked to a lawyer for advice; I did not pretend to know anything about law. On the same theory I took the position that I ought to be consulted sometimes on questions of public health and those matters which affected the practice of medicine, on the basis that I knew more about that than the lawyers of that body, and it was generally conceded that such was the case—not universally so, I am sorry to say. Still, there were some men who are always broad-minded enough to stand with us and help to defeat those measures which really ought not to have the dignity of consideration by a legislative body.

On the Thursday night before adjournment we heard the chiropractors on their bill before Dr.

Wallace's committee, the doctor being chairman of the Committee on Public Health. Actually, I felt sorry for those people. I could not help but feel sorry for them when I saw how bewildered and helpless they were before that committee. Senator Whitledge, who is a lawyer, and Senator Kinney, of St. Louis, embarrassed them far more than Dr. Wallace and myself. We were kind enough to keep still, and I can tell you that Senator Whitledge asked them questions which were certainly to the point; in fact, he made them look ridiculous. Now, if we had men of that character, who were capable of reasoning upon these matters, men who would look to the proper source for light, there would be no reason for doubt as to the action of the legislature on these questions. The great misfortune is that we have men elected to the legislature who are under obligations to parties who practice these fads, isms and pathies, who will try to bring some influence to bear upon the members. The most active man in my district was one of these men. It works this way. Here is a man who is under obligations to an optometrist, and he comes to other representatives and says, "I have promised to help push this bill through; we feel that these people ought to have a hearing, we feel that these people ought to have a chance." Of course it is very hard to convince a man who comes with a pocketful of promises, who possibly has secured his position in a way by obligating himself in advance to assist these people. That is where we doctors make a mistake; we ordinarily do nothing until it is too late; we usually wait until we are defeated and then we get up and howl about it. What we ought to do is work in advance, try to educate the people and have the people interested and understand that we are working for them and not for the doctors. I have recently said on the floor of the senate that we were not there asking for anything in behalf of the doctors; the doctors are able to take care of themselves, that the legislature is there to enact measures for the people of Missouri, that if it is felt that the interests of the people of Missouri in public health matters demand action upon this question, if this act is to give the people something which they need, something that they have a right to, then it ought to be passed; on the other hand, if this is a measure which is pushed from selfish desires, if this is a measure to give people who are merely tradesmen opportunity to filch money from our people, you ought not to be for it, you ought to stand against it, and nothing should induce you to be for it.

Now, we must take a broad stand on these questions; we must have it understood that we are working for the people and not for the medical profession. I do not think we ought to ask for any special favors. I am sure this body of gentlemen are not here feeling they are mendicants or that they should go before the public as seeking special favors. We ask none, and let us help the people to understand that we are asking no favors, but that we are seeking to protect the people themselves. I take the position that the people are not informed on these questions. In all my public addresses, I say to the people, "It is not discreditable to you that you are not informed on the subject, the subject requires technical knowledge and men of good ability are under the necessity of spending many years in order to know a little on the subject; then it is not discreditable to you to have to say that you know nothing about it and for the state to step in and say that no one shall practice medicine until he knows its principles." I say further, "I do not care what you call yourselves, if you want to practice medicine, if you are thoroughly familiar with the principles of medicine and can render safe advice, call yourself what you please; it

seems foolish to me for you to call yourselves anything but doctor; that seems enough to me, but if you choose to have some special appellation by which to distinguish yourselves, if you are competent, I see no objection, but in the name of goodness let us demand competence before you are turned loose upon the public to prey upon them and to injure the very class of people who are unable to protect themselves, the ignorant, the young and the incompetent mentally, as you will if you are not competent." And those are the people that need our protection. If it were possible for them to practice medicine only on these great, bulky fellows who have big bodies and little brains, I do not know but what it would be a good thing, it really might be a good thing; but here are the young coming up, unable and unprepared to protect themselves and we ought to look out for their protection.

DR. E. C. WITTWER, Mountain Grove, closing: I appreciate the discussion that was started and I will freely confess that that was the real object of this paper. I want to say one thing more. Down in the country where I am we do things a little better sometimes than you do in town; in other words, our medical society sounds all the prospective candidates for the legislature on these subjects before they are nominated at all and I think that is a very good plan. I want to tip it off to you men of Kansas City and St. Joseph and so on to try it yourselves.

THE ORGANIZATION OF NATIONAL AND LOCAL FORCES IN THE CAMPAIGN AGAINST CANCER

CURTIS E. LAKEMAN, M.D.

Executive Secretary, American Society for the Control of Cancer

The American Society for the Control of Cancer has recently urged that every state medical society take an active part in arranging meetings and in spreading among all members of the profession the latest knowledge of malignant disease. At the suggestion of the Cancer Committee of the Pennsylvania State Medical Society, many journals will devote their July issues to this subject. It has been pointed out that the American Society for the Control of Cancer might take this timely opportunity to state its view of the relations between the various bodies which are concerned in this campaign. The suggestion is welcome. If indeed a clear understanding can be reached as to the most effective division of functions and duties among the various organizations, national, state and local, interested in this subject, a long step will have been taken toward the conquest of malignant disease, in so far as that ideal can be approached by the practical application of present knowledge.

THE NATIONAL SOCIETY

The American Society for the Control of Cancer sets up no claim of priority or originality in preaching to the public the necessity of early recognition and treatment of this disease. The

organization was effected under the inspiration of numerous similar movements in this country and in Europe. From the first it has been inspired only by a sincere ambition to coordinate all existing forces into a single irresistible nation-wide effort to reduce the cancer death rate by imparting the necessary knowledge and inspiring the will to believe and act upon it. Those who direct the policy of the society have no illusions that they are called above others to this task. They firmly believe that all sincere workers should unite in a single well-considered national movement. If the present society fails to meet the requirements of such a movement it must give place to some agency that will do so, leading the campaign against malignant disease with as conspicuous ability and success as the National Association for the Study and Prevention of Tuberculosis has directed the war on consumption.

RELATION TO THE PROFESSIONAL SOCIETIES

While the cancer society found its first impulse in the work of a committee of the American Gynecological Society, the movement was broadened at its very inception by the appointment of organizing delegates from the American Surgical Association, the American Dermatological Association, the Association of Pathologists and Bacteriologists and practically all the similar special organizations which met in Washington in May, 1913, as the Congress of American Physicians and Surgeons. Definitely launched in New York on May 22, 1913, the movement received within a few months the official endorsement of the American Medical Association, the Clinical Congress of Surgeons, the Western and the Southern Surgical and Gynecological societies and a number of sectional and state organizations. All these professional bodies have endorsed the design of the national cancer society as expressed in its constitution:

"To disseminate knowledge concerning the symptoms, diagnosis, treatment and prevention of cancer, to investigate the conditions under which cancer is found and to compile statistics in regard thereto."

RELATION TO CANCER RESEARCH

It will be seen that this purpose comprises not only the conduct of an educational campaign, but the gathering of information in regard to this disease. In what relation, then, does the society stand to the various American cancer research institutions and workers? The answer is that the society does not contemplate the prosecution or support of biological research, already so ably pursued under the auspices of our leading universities. With these workers in the field of pure science,

mutually helpful relations have developed. Indeed a notable collective expression of their attitude is regarded as a very cornerstone of the educational movement. A few years ago the eminent laboratory students placed on record in the transactions of their official organization, the American Association for Cancer Research, their conviction that pending the discovery of the ultimate nature and cause of cancer, a far more effective dissemination and utilization of the vast store of present knowledge of the disease is urgently called for. Formed to carry out this very object the "control" society depends upon the constant support and cooperation of the institutions represented in the "research" society. Many of the foremost American students of cancer are prominent in the membership of both organizations. Machinery is thus provided for the wider dissemination among the profession and the people of the essence of the newest knowledge of malignant disease, fresh from its laboratory sources.

RELATION TO STATISTICAL INVESTIGATIONS

The society does, however, contemplate original work in the collection and collation of statistical data, and will expand this feature of its program as fast as its resources permit. The statistics of cancer mortality need to be improved both as regards their collection and their publication. The merest suggestion by the society to the U. S. census bureau has been sufficient to initiate a notable advance in this respect. With the greatest possible interest and zeal, Mr. Harris, the late director of the census, and his successor, Mr. Rogers, have undertaken the preparation of a special report on the cancer mortality of the U. S. registration area in 1914. The number of deaths will be stated in full detail under some thirty titles of organs and parts of the body affected, instead of, as hitherto, merely under the six general groups of the international list. The imperial cancer research fund has long urged that it is only on the basis of such detailed data for the various organs that a true conclusion can be reached as to whether or not cancer is increasing. For the first time in the United States the data will now be at hand, as it is in England and Wales through the reports of the registrar-general, for the prosecution of such inquiries.

The census bureau will also for the first time in this study make a distinction between returns based on certain and on doubtful diagnosis. To secure the additional information needed for this distinction the bureau is sending tens of thousands of letters to physicians who have certified deaths from cancer, asking whether the diagnosis was based on clinical findings alone or was established by surgical intervention, microscopical examination, or autopsy.

All this, it will be realized, is a large amount of work for even a government bureau to undertake. Much of it should be done in the first place by the registration offices and the boards of health of the several states, where the original certificates of death are filed. It will be the duty of the American Society for the Control of Cancer to urge upon the various state officials the need of undertaking this work in order to insure the permanence of the advance in the statistical study of cancer which has been inaugurated by the census bureau.

But the society is also interested in special statistical studies of the geographical, racial and occupational distribution of cancer, and above all in collating, upon a uniform plan, the records of surgical treatment of the disease in the leading hospitals. It is important that an authoritative answer be available for all who ask just what percentage of success is to be expected in the treatment of each phase and each stage of this multiform disease. All such studies the society regards as fulfilling its fundamental purpose, and in pursuing them it is everywhere receiving the most cordial encouragement and assistance from statistical offices and from the best hospitals and institutions.

RELATION TO EDUCATIONAL AGENCIES

The important and clearly established lessons derived from such studies of the sources of information must be given to the public. The society has undertaken to do this directly, through its publications, its regular articles for the newspapers and its lectures. But in the large view it can best secure this object by enlisting the cooperation of all appropriate existing agencies which conduct educational work. Foremost among these are the state and local departments of health, especially those which are devoting an increasing share of their energies to the spreading of the gospel of health by bulletins, exhibits and lectures. In the same category must be included the committees on public instruction which in many states are conducting admirable campaigns of health education under the auspices of the state medical societies. Toward all these agencies the society stands in the relation of the producing to the distributing end of a manufacturing business. With its wide outlook over the national field it is in a strong position to provide statistical material, to receive and pass on new knowledge, new experiences, new methods which have been found valuable in one field and should be used in others. In another view the society may take the position of middleman between the research workers and statistical students, producing new facts about cancer at the sources of knowledge on the one hand, and on the other the many agencies, general and local, which will bring the practical bearings of this knowledge, new and old, directly home to the people. In general,

then, one of the most useful functions of the society is to act as a bureau of information and clearing house which is at the service of all workers and institutions interested in the study and control of cancer.

RELATION TO STATE COMMITTEES

The relation of the national society to similar movements within the various states should be clear from what has been said. In no case will the society seek to set up local agencies to parallel work already adequately organized under the auspices of state medical societies and boards of health. Provision is made for local committees to be organized under the supervision of the resident directors of the national society wherever no state or local agency is in a position to undertake the work. Such groups will not be formed, however, except under full agreement with present state agencies. Where, as in Pennsylvania under Dr. Wainwright, and similarly under the auspices of state medical societies in Maine, Wisconsin, Kansas, Colorado, Louisiana, Texas and many other states, active local committees are at work, every effort will be made to assist these groups in the manner already outlined and so far as the constitutional limits of size permit to secure from them representative delegates to the governing council of the national society. At least one director from each state will eventually be chosen to act as a local correspondent, who will inspire and stimulate work in his own state while at the same time assisting in formulating the general policies of the national society.

RELATION TO OTHER GENERAL COMMITTEES

It is an earnest of the good feeling and harmony with which the cancer campaign is evolving toward a single coherent national movement to consider the high degree of integration with other national agencies which has already been attained. Some of these had begun effective work long before the present society was established. Aside from such admirable local campaigns as that of the Pennsylvania commission and the work inspired by Dr. C. C. Carstens in Michigan, the Clinical Congress of Surgeons of North America had in the field an active committee on cancer under the chairmanship of Dr. Thomas S. Cullen of Baltimore, the other members being Dr. Simpson of Pittsburgh and Dr. Howard C. Taylor of New York. This committee, as is well known, caused the publication of widely read and influential popular articles by Samuel Hopkins Adams. It is instanced merely as indicative of the get-together spirit that animates the national society that all three of these men naturally took their places as members of the executive council of the new association. Subsequently the American Medical Association appointed a cancer committee represent-

ing its Council on Health and Public Instruction, and again to avoid duplication of effort the same men were made members of that committee. Dr. Frederick R. Green, the capable executive of this council of the American Medical Association has been, from the first, a director of the cancer society, and has given invaluable advice and cooperation in its publicity campaign, printing every week in the *Press Bulletin* of the American Medical Association a popular article on cancer prepared by the society, which thereby reaches 3,000 or more editors in all parts of the country.

A similar identity of committees has been effected in local fields, especially in Minnesota, and is typical of the desire to carry on everywhere a well-coordinated national campaign which shall embrace representation from all the principal local agencies and shall thus move forward with absolute harmony and unity of purpose to the accomplishment of its difficult but glorious ideal—the progressive reduction of the mortality from this historic scourge of mankind.

LOBAR PNEUMONIA *

OLA PUTMAN, M.D.
MARCELINE, MO.

Probably no disease has been the subject of more papers than has lobar pneumonia. The frequency with which it occurs and the ease with which it is recognized have made it a subject at almost every meeting of medical men. It would seem that the last word would have been said generations ago. Almost every practitioner who handles many cases of pneumonia has come to follow a line of treatment which he thinks approaches a specific, and it is strange that no two lines of treatment are identical. Many methods of treatment and management have been advanced and long lists of case reports quoted to show the efficacy of the particular treatment that the enthusiast is using. One doctor with an extensive practice reports that he has never lost a case of lobar pneumonia. The unfailing remedies range from bran poultices and massive doses of quinin to egg-nog and cabbage leaves.

The severity of pneumonia varies greatly in different parts of the country in different seasons, and some epidemics are much more severe than others, regardless of season or locality. The individual, the age and the number of attacks all enter into what goes to make up the variance in severity. It is the general opinion that one attack of pneumonia renders the subject more susceptible to subsequent attacks.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

This seems to be true, but there is a certain amount of immunity or resistance conferred that makes subsequent attacks lighter.

It is not without knowledge of the difficulty of drawing conclusions that I am reporting these few cases of lobar pneumonia treated with an antigen prepared by Rosenow and Hektoen. The cases treated with the antigen were managed so that the patient received nothing that could hurt him, nothing that could lower his resistance, was well nourished, received plenty of fresh air and his strength conserved in every way. With the exception of an occasional dose of castor oil no other medicine was administered.

Rosenow has shown that the substance that causes the virulence of pneumococci and also causes resistance to phagocytosis can be made to pass into solution when the pneumococci are suspended in salt solution. This soluble substance he has called virulin. This virulin has little immunizing action but great toxic action; the insoluble part of the pneumococci has antigenic properties and but little toxic effect. The antigen is prepared in the following manner: Twenty-four-hour culture of highly virulent pneumococci are centrifuged and suspended in 0.5 per cent. phenol in normal salt solution under ether for seventy-two hours, or until organisms become disintegrated, Gram-negative and non-toxic to guinea-pigs. The suspension is then standardized, so that 1 c.c. contains about twenty billion pneumococci. One cubic-centimeter is given hypodermically every twenty-four hours, beginning as soon as possible after the initial chill and continuing until the temperature becomes normal. Very little local and general reaction follows this enormous dose. The local effects of the antigen is similar to that produced by any bacterial vaccine, scarcely as much local reaction as usually follows antityphoid vaccine. The systemic effects are more uncertain, though no injurious effects were noted. There may be a rise of temperature of one or one and a half degrees in the next few hours after its administration, but it is difficult to be certain that this is due to the antigen and not to the course of pneumonia itself. Within twenty-four hours there should be a marked reduction in the temperature and an amelioration of the other symptoms.

In Cook County Hospital, where the antigen was first tried, the effects were so markedly beneficial in the first thirty-five cases, that control cases were used, that is, the antigen was used on every second case until 100 cases had received antigen and another 100 used as control. The average mortality rate of the untreated cases was 38 per cent. The average mortality of the treated cases was 23 per cent. The average time of administration of the first dose was on the fifth day, which was a great

disadvantage in this form of treatment, and it was in order to have reports from private practice, where the antigen could be given early, that Rosenow and Hektoen furnished the antigen to physicians who would report the cases.

The cure of pneumonia, according to the investigations of Hektoen, results from the destruction of pneumococci in the lungs and in the blood by phagocytosis and extra cellular digestive processes. The substances which stimulate phagocytosis are contained in the pneumococci. It is reasonable to suppose that if the antigenic parts of the pneumococci could be introduced without adding more toxins to the system, it would stimulate leukocytosis and phagocytosis and in this way overcome the disease. The danger of pneumonia comes from the toxins liberated by the pneumococci. The congestion and consolidation of the lungs are not the factors that cause death in pneumonia. Following the crisis, the lungs are as badly congested and as solid as they were the day before the crisis, though the patient's temperature and pulse are normal. The pneumococci and their toxins have been destroyed.

The cases treated in this series fall into two groups: first, those who received the antigen during the first 48 hours, second, those receiving the antigen after 48 hours. When the antigen was used in the first 48 hours, the effects were so marked that it does not seem possible to attribute it to coincidence. It seems positive in its action, comparable to the action of diphtheria antitoxin. In the first group there were six cases. These cases were all carefully examined, the symptoms and physical findings all pointed to lobar pneumonia, so that the possibility of error in diagnosis is as small as could be without cultures from sputum and blood. There were no fatalities in the sixteen cases. Without reporting all cases in detail, a few specimen cases will be given.

J. J. D., aged 39, farmer, weight 200 lbs., married; previous illness consisted of two attacks of renal colic, a few months apart, two years before present illness. Initial chill about 2 a. m., Feb. 14. At 11 a. m. temperature was 103.6, pulse 130, respiration 36, some cyanosis and complaint of pain in left side near nipple. Was expectorating blood-stained sputum; crepitant râles plainly heard over lower lobe of left lung. 1 c.c. antigen was given hypodermically. The following day about noon temperature was 100, pulse 110, respiration 26, expectation about the same in quantity and character. One c.c. of antigen was again given and patient had profuse sweat about 9 p. m. The temperature next morning was normal, pulse 76, respiration 24. There was no further rise of temperature and recovery was uninterrupted.

The other five cases are briefly as follows:

P. C., aged 56, right lobe, crisis on second day, two doses of antigen.

W. S., aged 10, right lobe, crisis on third day, three doses of antigen.

J. L. D., aged 10, right lobe, crisis on fourth day, three doses of antigen.

R. U., aged 44, left lobe, crisis on second day, two doses of antigen.

T. S. W., aged 18, right lobe, crisis on third day, two doses of antigen.

The average time of crises for these six cases in group 1 and 2 was $2\frac{1}{2}$ days after the administration of the first dose of antigen.

The cases in the second group number ten. They received the antigen on the third to fifth day of the disease. The cases receiving the antigen after the third day seemed to run a course uninfluenced by the antigen. The cases which received antigen on the third day were apparently benefited, the temperature dropping by lysis in three cases.

R. E., aged 19, double pneumonia, antigen on fourth day, crisis on tenth, 8 doses.

L. H., aged 8, double pneumonia, antigen on third day, crisis on fifth, three doses.

M. D., aged 9, left lobe, antigen on third day, lysis on fifth, sixth, seventh, four doses.

M. S., aged 10, right lobe, antigen on fifth day, crisis on seventh, three doses.

W. S., aged 6, left lobe, antigen on fifth day, crisis on seventh, three doses.

G. A., aged 49, right lobe, antigen on third day, crisis on seventh, five doses.

E. N., aged 12, antigen on third day, crisis on fourth, three doses.

C. B., aged 63, antigen on third day, lysis on fourth, fifth, sixth, four doses.

M. R., aged 20, antigen on fourth day, crisis on fifth, two doses.

S. W., aged 38, antigen on third day, crisis on fifth, three doses.

The average time of crisis in Group 2 was 6.3 days after the onset of the disease. The average time of crisis after the administration of the antigen was 2.9 days. The average time of the crisis from the onset in the whole 16 cases was $4\frac{1}{4}$ days.

Human Herbivore and Carnivore.—Given the presence of the two human types in one locality, what may be expected of them? History provides abundant answer. Thus in England the square-jawed Round-heads under Cromwell stirred up the country for a few years and disappeared. The hatchet-faced Puritans found England too crowded and settled a new world. Today hawk-nosed bird men rule the upper air. The carnivore is the restless pioneer, inductive, dying ever on the outskirts in search of something new. The herbivore is the sedentary stabilizer, deductive, ever at his appointed task. Both are necessary to the progress of the world, and neither can do the work of the other. It seems unlikely that the human species will ever be reduced to one type, but should this come to pass one might hazard a surmise that the surviving type would be a mixed one, perhaps three parts carnivore and one part herbivore.—John Bryant, M.D., *Boston Med. and Surg. Jour.*, Sept. 9, 1915.

THE JOURNAL

OF THE

Missouri State Medical Association

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OCTOBER, 1915

EDITORIALS

"PERSONAL AND STRICTLY CONFIDENTIAL"

Among the evil practices in the medical profession that organized medicine is making a determined effort to stamp out, none is more contemptible than fee-splitting and its companion in crime, commissions. On this subject the Principles of Medical Ethics says: "It is detrimental to the public good and degrading to the profession and therefore unprofessional to give or to receive a commission." In spite of this condemnation of the practice there are certain persons in whom the avaricious instinct is so highly developed that they brush aside with contemptuous scorn all consideration of their colleagues' respect for the honor and dignity of their calling and attempt to lure them into evil practices by the bait of a commission on fees collected from referred cases. This is merely a variation of the fee-splitting evil, against which the people have become aroused and in some states has caused the legislature to enact statutes making the offense a misdemeanor.

That commission-giving is shady work and must be done under cover, is sufficiently evidenced by the fact that all who indulge in the practice carefully conceal their connection with it and in every way possible endeavor to create the impression that they are not tainted with its blighting influence. One of the most frequent methods for hiding the transaction is the use of the "personal and strictly confidential" communication. Under this sacred seal a St. Louis institution for the treatment of narcotic habitués asks our members to dishonor themselves, debase their profession and betray the confidence reposed in them by their patients.

On another page in this issue we publish two letters received by some of our members, which illustrate this method of entrapping the unthinking doctor into selling his patients for a commission. These letters were sent to us by

the recipients with words of bitter denunciation of the institution and its methods. We believe a perusal of the letters will be sufficient to condemn the proposition and the institution in the minds of all members of our Association.

We will add only that there are several reputable institutions advertised in our JOURNAL in which the patient will receive every attention that science affords and the physician will be shown every possible courtesy, but he will not obtain a rebate or a commission on the amount of fees collected by the institution from the patients.

SOCIETY MEETINGS

Now that summer has passed and the county societies have resumed their regular sessions, we urge all members to make special efforts to attend the meetings of their societies. There is no organization that confers larger benefits upon the physician than membership in his county society, but such membership imposes certain obligations upon the physician, not the least of which is attendance at the meetings as often as it is possible for him to go.

Another thing the members should endeavor to do whenever they can is to contribute their share to the programs. It is not always the lengthy paper describing rare or unusual conditions, with theoretical deductions of the cause and the treatment of the case, that attracts the most attention or arouses the greatest interest. More likely a case report or discussion of a division in a symposium will be of greater benefit both to the reader of the paper and to those who hear him.

One of the most discouraging phases of county society meetings, however, is the failure of the member who has been assigned a part on the program to be present and fulfill his duty. No member should allow himself to disappoint his audience if there is any possible way of avoiding it.

The secretary of the Association has received several requests for speakers to give public lectures as well as requests for members to visit county societies and give a clinical lecture for the benefit of the physicians themselves. We believe this is a sure indication that new interest is being aroused in county society work.

We hope to receive reports of the meetings from a larger number of the societies this fall than we received last year and thus increase the number of pages in the JOURNAL devoted to society proceedings.

GEORGE M. HEATH ARRESTED

George M. Heath of St. Louis, a chemist and bacteriologist, self-styled discoverer of a serum for the treatment of tuberculosis, who gained considerable notoriety about the time Friedmann was promoting his serum in this country by challenging Friedmann to test the merits of their respective products, was arrested at the instigation of the officers of the St. Louis Board of Health for practicing medicine without a license. Investigators from the health department went to Heath's office and one of them complained of lung trouble which they say Heath diagnosed as bronchial and not tuberculous and said his treatment would last about three or four months for which they would charge fifty cents per prescription for the medicine. Heath recently announced in the newspapers that he had opened a free clinic for tuberculous patients in his office and that several physicians, all of them members of the St. Louis Medical Society, had agreed to assist him.

In 1912 Heath advertised what he called Leuxco-lexin Serum as "the best and most modern treatment for tuberculosis." At that time he was conducting the Heath Laboratory in the Marina Building, St. Louis. Apparently the physicians and people failed to rise to the bait and nothing more was heard of this "best," "supernormal" serum for tuberculosis.

That the people and particularly reputable newspapers have reached the point where they require some evidence of the reliability of the promoters and the efficiency of a new treatment for tuberculosis before publishing statements of so-called discoveries, was graphically demonstrated in Heath's case. Shortly after his announcement that he had opened a clinic appeared in the newspapers—and this, by the way, one of the papers accepted without investigation—Heath telephoned the newspapers to send reporters and photographers to his office to write up his clinic. One newspaper telephoned the president of the St. Louis Medical Society and asked for information concerning Heath then dropped the matter. One newspaper sent reporters and a photographer to Heath's office, obtained the data and some pictures, and an article was written and ready for publication. When the city editor saw the article he thought it "looked fishy" so he 'phoned several physicians in whom he had confidence for information concerning Heath's record. Being unable to find any one who would substantiate Heath's claims, the write-up was consigned to the waste basket. The city editor of another newspaper having suffered the loss of a member of his family by tuberculosis,

said he did not propose to publish anything which might arouse false hopes in the hearts of present sufferers, so he ignored the request.

Heath contends that he did not hold himself out as a physician to the investigators of the health department, but whether he did or did not the exposure is a valuable lesson to all physicians to be cautious about lending their names and influence to new and untried methods of treating disease, especially tuberculosis and cancer.

THE GOAT

It has been said that one of the reasons why medical inspection of the schoolchildren in Kansas City cannot be reestablished was dissension among the physicians. To those familiar with the situation it was perfectly clear that such an excuse had no valid ground to stand on, but doubtless it served its purpose and deflected the searchlight of publicity from the real cause. Now comes a former medical inspector and utters some plain words on this unusual condition. We say unusual for any city the size of Kansas City which does not provide medical inspection of the schoolchildren does an injustice to its citizens and seriously handicaps the future usefulness of the present generation of schoolchildren. On another page we publish a letter on this subject recently printed in the *Kansas City Star*.

OUR VICE-PRESIDENTS

We think a brief sketch of the lives of the members who were distinguished by the Association in electing them to the position of vice-president at the St. Joseph session will hold considerable interest for other members of the organization, so we present the information herewith. We have five vice-presidents, so that different sections of the state are represented in the distribution of these honors. The sketches follow:

Dr. Guy B. Mitchell, Branson, Taney County, elected first vice-president, was born in Baltimore, Md., Feb. 7, 1878. When eight years of age the family moved to Abilene, Kan., where he received a high-school education. He obtained his medical degree in 1901 from the University Medical College, Kansas City, and located in Kansas City, where he engaged in general practice for four years. Ill health compelled him to make a change and he moved to Forsyth, Taney County, in 1907. At this place he served as county coroner from 1908 to 1912. In 1912 he moved to Branson, and three years later served as representative in the legislature

for the term of 1915-1916. He is at present engaged in general practice in Branson. He has been very active in county society work.

Dr. Chambers B. Clapp, Moberly, Randolph County, the second vice-president, was born on a farm in Vermilion County, Illinois, where he lived until he was sixteen years of age and obtained such education as the district offered. For two years he taught school, which enabled him to take a four-year course in college. He followed this with a course at the Philadelphia College of Pharmacy, from which he graduated in 1882, making up for a lack of money by working for his board. He then entered Rush Medical College, Chicago, and graduated in 1889, locating immediately thereafter in Danville, Ill., but receiving the appointment of local surgeon for the Wabash Railroad Company at Moberly, Oct. 1, 1890, he moved to Missouri. On Sept. 1, 1891, he was appointed surgeon in charge of the Wabash Hospital in Moberly and retains that position. In 1909 he opened a private general hospital in Moberly, but confines his work to general surgery. He served as health commissioner of Moberly for several years, is ex-president of the Randolph County Medical Society, the North Missouri Medical Association, the Linton District Medical Society, and the Wabash Railway Surgeon's Association. Dr. Clapp is 56 years of age.

Dr. Alfred E. Monroe, Sedalia, Pettis County, third vice-president, was born in Moniteau County, Mo., 1870, and was reared on a farm. He was educated in the public schools and at William Jewel College, Liberty, Mo. His medical degree was obtained at Marion Sims Medical College, St. Louis, where he graduated with honorable mention in 1893. He took postgraduate courses in 1901-1902, and 1909-1910. Before locating at Sedalia in 1910, where he is at present engaged in general practice, he practiced in Cooper County, at New Lebanon and at Otterville.

Dr. Byron B. Potter, Lancaster, Schuyler County, fourth vice-president, was born at Marseilles, Wyandot County, Ohio, Oct. 14, 1847. Here he received a common-school education, which was supplemented later with a course in an academy at Denmark, Iowa. At the age of 16 he enlisted in the 15th Regiment Ohio Infantry, and was honorably discharged at the end of the war in 1865.

As was customary in those days, his early study in medicine was obtained under the direction of preceptors, Drs. Carter and McLure, at Roundhead, Ohio, and he graduated from the Cincinnati College of Medicine and Surgery in 1869. He began practice at West Newton, Ohio, and was a member of the Allen County Medical Society and the Northwestern Ohio Medical Association. In October, 1870, he moved to Lancaster, Mo., where he has since

been in continuous practice. For over twelve years he held the position of U. S. examining surgeon, holds membership in the Schuyler County Medical Society, of which he is ex-president, and the Fifth District Medical Association, of which he is now president.

With forty-six years of practice behind him he expects easily to reach the half-century mark. His son, Dr. Wm. A. Potter, is associated with him.

Dr. Rush E. Castelaw, Kansas City, fifth vice-president, has been a resident of Kansas City for twenty-five years. In 1893 he graduated from the Kansas City College of Pharmacy, and obtained his medical degree from the Kansas City Medical College in 1902. In 1909-1910 he took advanced work at the University of Pennsylvania, and at the Neurological Hospital in New York City in 1911. He was superintendent of the Kansas City General Hospital from 1912 to 1914, and has always been active in county society affairs. He has served two terms as secretary of the Jackson County Medical Society and holds that office now.

HOSPITAL CHANGE AT SEDALIA

The Maywood Hospital at Sedalia has been acquired by the Sisters of Charity of the Incarnate Word and a large fund has been donated by the citizens for the purchase of the buildings and grounds. Maywood Hospital is well equipped for rendering excellent services in the care of patients and under the charge of Dr. E. A. Wood and other members of the Pettis County Medical Society that composed the staff it has made a splendid record in the community. Under the new management the facilities will be greatly extended and the equipment enlarged. There will be no medical staff, but all reputable physicians will be privileged to attend their patients in the hospital. Eight Sisters of the order who are trained nurses will be stationed at the institution.

NEW JERSEY IN LINE

We congratulate the Medical Association of New Jersey and its journal and felicitate organized medicine upon the addition of another journal to the membership of the Cooperative Medical Advertising Bureau. Beginning with the September issue, the *Journal of the Medical Society of New Jersey* has eliminated all objectionable advertising and can now present to the members of that organization a periodical that reflects the ideals of organized medicine in

every department of the work. Commenting on this change, the New Jersey journal says: "The publication committee points with pride to the achievement in this issue of a step that it sincerely hopes will meet with the approval of the members of the state society and those advertisers whom the committee have sought to retain on its advertising pages. This action has been fraught with a material loss but we have replaced the losses by inserting new and less objectionable matter so that now no nostrums or unethical wares can buy advertising space in this journal; and that is more important to our members than computing the possible financial losses. It means a moral uplift. This action stands for honesty and truth, as the notice on our front cover page points out.

We invite you to carefully examine our advertising pages now and in the future, first, to assure yourself that you will find them as carefully edited as the reading pages, and second, to fix in your thoughts the names and items advertised, always mindful of the fact that these are the firms who by their support are paying the bills of this publication; and when in need of their wares please do not forget this fact. And even when not actually buying, help your journal by encouraging the advertisers by telling them that you saw their notices in the journal.

Start now! Read the advertisements in this issue!"

The journal is edited by Dr. D. C. English of New Brunswick, New Jersey, and ranks among the best publications owned and controlled by state associations.

We welcome this influential factor to the list of journals conducted on the principles which lie at the foundation of the organized medical profession of this country.

EXCERPTS FROM OTHER JOURNALS

Beginning with this issue, we have taken advantage of the opportunity offered in the advertising pages to present a variety of information that we believe will be of interest and profit to the members. We feel that our membership should be familiar with the activities of other state associations and that they should have some idea of how Missouri ranks with her neighbors. Therefore we intend to quote every month from some of the other state journals.

In addition to this, we will give from other journals of high standing excerpts containing an idea or suggestion that may prove practical and beneficial to the practitioner.

We hope the members will welcome this new feature, as it is our aim to make every department of THE JOURNAL serve a useful and profitable purpose.

OBITUARY

FRANCIS A. TEMM, M.D.

Dr. F. A. Temm, a graduate of the Missouri Medical College, now Washington University Medical School, died at his home June 26, from heart disease, aged 48. He was an instructor in the Medical Department of St. Louis University.

JOSIAH C. McLAUGHLIN, M.D.

Dr. J. C. McLaughlin, graduate of the College of Physicians and Surgeons, Kansas City, Kan., 1901, died Sept. 11, 1915, at his home in Kansas City, Mo., after an illness of several months. Dr. McLaughlin was born near Decatur, Ohio, 1864. He has been in practice in Kansas City nineteen years.

ALBERT MERRELL, M.D.

Dr. Albert Merrell, formerly a member of the St. Louis Board of Health, and president of the St. Louis Pure Milk Commission during the Louisiana Purchase Exposition, died at Wilmington, Del., from cerebral hemorrhage, July 21, 1915. Dr. Merrell accomplished much in the regulation of dairies in Missouri and Illinois.

P. C. PALMER, M.D.

Dr. P. C. Palmer of Kansas City, a graduate of Rush Medical College, Chicago, 1884, died Aug. 1, 1915, aged 63 years. Dr. Palmer was returning from a visit in Hiawatha, Kan., and swooned near the union station while walking from the train shed. He died in an ambulance on the way to the hospital. He had practiced in Kansas City twenty-five years.

G. P. S. BROWN, M.D.

Dr. G. P. S. Brown, a graduate of the St. Louis College of Physicians and Surgeons, 1890, died at his home in Nixa, Mo., after a lingering illness, from gallstones, Aug. 27, 1915, aged 62 years. Dr. Brown had practiced medicine in Christian County for thirty-eight years, was a member of the Christian County Medical Society and the Missouri State Medical Association, and was held in high esteem by all who knew him.

W. EMIL KLOKKE, M.D.

Dr. W. Emil Klokke of St. Louis, a graduate of the University of Illinois College of Medicine, 1899, died at Tampa, Fla., while on a business trip, August 8, aged 39. Dr. Klokke was a member of the St. Louis Medi-

cal Society and the Missouri State Medical Association. He was a specialist in nose and throat diseases and had gained the confidence and esteem of the profession and a large circle of friends.

DAVID M. SMITH, M.D.

Dr. D. M. Smith of Boyer, Wright County, died at his home September 10, from injuries received from a fall from his horse while on his way to make a call. His horse stumbled, throwing the doctor from the saddle and his foot caught in the stirrup. The horse attempting to rise fell on Dr. Smith's chest, crushing him fatally. Dr. Smith was one of the pioneer physicians of Wright County, having settled there in 1869. He was 81 years old.

HORATIO N. SPENCER, M.D.

Dr. Horatio N. Spencer of St. Louis, one of the oldest practitioners in that city, a graduate of the College of Physicians and Surgeons, Columbia University, New York, 1869, died at Atlantic City, August 8, aged 74.

Dr. Spencer was one of the most widely known otologists in this country and ranked high in the social, civic and medical life of St. Louis, where he had practiced for nearly half a century. He founded the *American Journal of Otology*, which he edited for several years and was professor of otology in Washington University Medical School. He was born in Port Gibson, Mississippi, July 17, 1842, was prepared for college by private tutors and immediately after receiving his A. B. degree from the University of Alabama he joined the Confederate Army. After the war he began his medical studies and located in St. Louis in 1870. He soon became well known in medical and social circles and rapidly advanced in his profession.

Attentive at all times to his profession and careful with his investments, he had accumulated a large fortune which enabled him to dispense needed assistance in many directions for charitable and educational institutions. He assisted in founding the Bethesda Foundling Home and the Home for Incurables and Aged and was a liberal contributor to the support of the medical profession of St. Louis in establishing their home and the medical library.

He was a member of the St. Louis Medical Society, the Missouri State Medical Association, the American Otological Society, the National Geographic Society and for many years was the governor of the Society of Colonial Wars in Missouri. Honorary degrees of A.M. and LL.D. were conferred on him, the former by the Southwestern Presbyterian University of Tennessee and the latter by the Westminster College of Missouri.

NEWS NOTES

DR. G. H. CHARLES KLIE of St. Louis is seriously ill at the Mullanphy Hospital.

DR. W. L. SHARPE of Little Rock, Saline County, has been appointed a member of the Medical Reserve Corps of the United States Army.

B. A. HARVEY, a chiropractor at Kansas City, has been arrested by the health department charged with practicing medicine without a license.

DR. HASBROUCK DELAMATER of Kansas City has returned home after an absence of six months, during which time he was studying the clinics at Detroit.

DR. M. B. CLOPTON of St. Louis left September 18, having accepted a position in the surgical service of Dr. Joseph Blake in the American Ambulance at Neuilly.

A. SCHARNHORST, a chiropractor at Higginsville, was fined \$50 and costs on August 10. The prosecution was largely due to the activity of the Lafayette County Medical Society.

DR. W. J. BURGESS, formerly of St. Louis, later of Caruthersville and Sikeston, was convicted of embezzlement in the county court at Caruthersville and sentenced to three years in the penitentiary.

THE health board of Kansas City seems to be after a Dr. A. J. Burke, who conducts a free museum of anatomy in that city. According to the newspapers Burke was refused a license to continue the museum.

DR. GEORGE WESTBROOK of St. Louis was fined \$5 in the police court for failure to report a case of contagious disease to the health department. Dr. Westbrook said he supposed another physician had reported the case.

DR. NATHANIEL ALLISON of St. Louis departed about the middle of July for Neuilly, France, where he joined the American Ambulance, and will have charge of the orthopedic work for the months of August, September and October.

LEWIS COUNTY MEDICAL SOCIETY has arranged for a baby health conference at Canton the first week in October. The A. M. A. score cards and literature will be used, and Dr. Phelps G. Hurford of St. Louis will deliver a public health lecture on "The Health and Care of Babies."

THE office of Dr. A. O. Gilliland of Cameron was entered recently and a bottle of morphin tablets stolen. The doctor had taken the precaution to hide the tablets in his desk, but the thieves were not to be outwitted. This is the second time morphin tablets have been stolen from his office.

DR. GEORGE C. MOSHER of Kansas, who has been in Michigan for several months, has returned home having fully regained his health. While in Michigan he was the guest of the Lenawee County Medical Society and at the June meeting addressed the Society on "The Newer Anesthetics in Obstetrics."

How about keeping dry and comfortable this winter when you have to "crank up" in stormy weather? Would not a closed-in top be fine, especially if equipped with clear vision shield and ventilating windows? Read the advertisement of the Commercial Auto Body Company and see what they have for you.

THE Cape Girardeau Association of Nurses has established headquarters in the St. Francis Hospital, Cape Girardeau, where they will be available for call by physicians in that section of the state. The arrangement is one that will be of great advantage and convenience to physicians in the southeast section of the state.

KNOX COUNTY will have a round-up week at Edina, October 5 to 8. The officials requested Dr. Jurgens to arrange for a public health lecture by one of our members, and through the secretary's office this has been done. Dr. C. H. Neilson of St. Louis, professor of medicine of the medical department of St. Louis University, has consented to fill this appointment.

THE Iowa State Medical Association has amended its constitution so that the president is elected one year in advance of the date he assumes the duties of his office, that is, he is president-elect. Kentucky has followed this method for several years. It has been suggested that such an arrangement would be a forward movement for our association to adopt.

THE city of Fulton in Callaway County held its holiday season September 23 and 24 and had a street fair. The Ladies Home Makers' Club of Fulton held a baby health conference during the celebration. In this work they were assisted by the members of the Callaway County Medical Society, and Dr. Frank Gordon of St. Louis delivered an address on "The Care of the Baby."

THE Alumni Association of the Medical Department of Washington University will hold a reunion during the week of October 4 to 8 at St. Louis. Clinics, lectures, luncheons, theater parties and a banquet are among the diversions that have been prepared for the pleasure and instruction of those who attend. The dates include the Veiled Prophet parade and ball and provision has been made to supply the alumni with tickets to the ball.

THE voting population of Joplin who rent telephones did not have a chance to forget the special election held on September 14 to vote on a bond issue for building a tuberculosis hospital, because a committee from the Civic League composed chiefly of women called each one and reminded him of his duty to vote for the proposition. The bond was authorized by a large majority. From the success of this effort it would appear that the women do not need the ballot to control an election.

WEBSTER COUNTY MEDICAL SOCIETY reports holding one of the best meetings in its history at the September session. Nearly every member was present and several visiting physicians added to the interest of the occasion. The secretary announces that he will collect dues at the December meeting and urges all members to pay promptly so Webster County may be *first* on the roll of honor for 1916, instead of second as it was this year.

THE following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Armour and Co.: Pineal Gland Desiccated.

Hoffman-La Roche Chemical Works: Scopolamine Stable Roche; Larosan, Roche; Pantopon (Pantopium hydrochloride).

A. Klipstein and Co.: Coagulen, Ciba.

Merck and Co.: Betanaphthol Benzoate.

GOVERNOR MAJOR appointed the following delegates to the Mississippi Valley Conference on Tuberculosis, which met at Indianapolis September 29, 30 and October 1: Dr. St. Elmo Sander, Kansas City; Dr. Samuel Lipsitz, Dr. John Young Brown and Mr. A. W. Jones, Jr., St. Louis; Dr. Walter McNabb Miller, Columbia; Dr. Edwin James, Springfield; Dr. William M. Bayliss, Clarence; Dr. J. L. Eaton, Bismarck; Dr. J. W. Dreyfuss, Louisiana; Dr. W. A. Clark, Jefferson City.

AMONG the contributors to the fund for the purchase of the Maywood Hospital at Sedalia by the Sisters of the Incarnate Word, the following physicians gave the sums opposite their names: W. J. Ferguson, \$10,000; E. A. Wood, \$5,000; M. P. Shy, \$1,000; E. F. Yancey, Charles McNeil, George E. McNeil, \$500 each; D. P. Dyer, \$250; F. R. Morley, C. B. Trader, F. B. Long, Guy Titsworth, Cord Bohling, K. R. Barnum, E. A. Albers, \$100 each; J. G. Love, \$50; A. E. Monroe, W. A. Beckemeyer, \$25 each; W. T. Bishop, \$10.

DR. RALPH L. THOMPSON of St. Louis has returned from Europe after spending three months in the service of the medical corps of the British army. He was a member of the Red Cross unit that left Chicago about June 1 and consisted of thirty-two physicians and surgeons and seventy-five nurses. Dr. Thompson was stationed in a hospital at Etaples, France, and was chief pathologist of the unit. Dr. W. E. Leighton of St. Louis, who is a member of the same unit will remain in the service several months longer.

THE Central States conference on social hygiene will convene in Chicago, October 25 and 26. The first session will consist of the discussion of the general features of the social hygiene movement. On the following day the moral and educational features of the social hygiene movement will be taken up; in the afternoon the medical and public health aspects will be treated, and in the evening there will be a discussion of the legal and administrative phases. The advisory committee is under the leadership of President Abram W. Harris of Northwestern University.

FRANK E. CHAPMAN, superintendent of the St. Louis City Hospital, has resigned to accept the superintendency of the Cleveland Jewish Hospital, which is about completed and was erected at a cost of \$500,000. The resignation takes effect October 20. Mr. Chapman has been superintendent of the St. Louis City Hospital for the last two years and is said to be the youngest hospital superintendent in the country, being 33 years old. During his term of service at the City Hospital Mr. Chapman demonstrated unusual executive ability in the administration of hospital affairs and is responsible for many improvements in the management of the institution. The new position will bring a considerable advance in salary and larger responsibilities. His successor has not been named.

THE complacency of officials of the city of St. Louis received a considerable jolt when Mr. Emil N. Tolkacz, the director of public welfare, presented his report to the mayor recently. Mr. Tolkacz declared that the city's treatment of its insane wards is "barbarous and inhuman" because of the lack of modern buildings and methods. Mayor Kiel is quoted as saying that under the present system at the City Sanitarium if a man were nearly normal and had a chance of recovery a year's residence at the institution would make him insane. The criticism is not directed at the administration, Dr. Johns, superintendent of the City Sanitarium, said, but at the system under which it is necessary to operate with the present facilities. The report recommends many improvements in the various buildings and methods of caring for the city's unfortunate wards.

THE Frank S. Betz Company of Hammond, Ind., has expanded their already large plant by changes that have caused considerable interest in professional and trade circles. Mr. Frank S. Betz, who hitherto has been virtually the sole head of this large business, has felt the need of active assistance in the management of the affairs of the concern, and especially to carry out plans of extension along the many lines in which the company is interested. As a result, a coterie of business men, high in the financial and business world, have purchased a large interest in the company and extensive plans are being formulated for the extension of the business in every branch. Mr. Betz remains with the company as president and chairman of the board of directors. The changes will not affect the methods of manufacturing and selling goods, but will mean greater activities and further extensions.

THE Board of the U. S. Bureau of Public Health Service will convene at the Marine Hospital in St. Louis on Monday, November 1, at 10 o'clock a. m. for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health Service. Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, and must furnish testimonials from two responsible persons as to their professional and moral character. Credit will be given in the examination for service in hospitals for the insane or experience in the detection of mental diseases. Candidates must have had one year's hospital experience or two years' professional work. Assistant surgeons receive \$2,000, passed assistant surgeons \$2,400, surgeons \$3,000, senior surgeons \$3,500, and assistant surgeon-generals \$4,000 a year. When

quarters are not provided, commutation at the rate of \$30, \$40, and \$50 a month, according to the grade, is allowed. For invitation to appear before the board of examiners, address Surgeon-General, Public Health Service, Washington, D. C.

NEW AND NONOFFICIAL REMEDIES for 1915 marks the tenth year of the existence of the Council on Pharmacy and Chemistry. Since 1907, when it was published as a modest pamphlet, it has grown to a volume of 426 pages. It may be fairly said to contain descriptions of all the worth-while proprietary and nonofficial remedies now on the market in the United States. Further, it is the only book or publication which contains comprehensive and trustworthy discussions of the composition, source, properties and dosages of proprietary remedies. As every physician should be informed about new remedies, even if he has little use for them, a copy of the book should be in the possession of all. It is not too much to say that a physician who is not familiar with New and Nonofficial Remedies is not doing his full duty to himself, to his profession, or to his patients.

The book contains, as a supplement, a list of references to discussions of articles not admitted to New and Nonofficial Remedies which have appeared in *The Journal* of the American Medical Association, in the annual reports of the Council on Pharmacy and Chemistry and in the reports of the A. M. A. chemical laboratory. This list of references enables physicians readily to obtain information in regard to the many nostrums which are exploited to the medical profession. Copies will be sent by the American Medical Association, 535 North Dearborn St., Chicago, post-paid, for 50 cents, and cloth bound copies for \$1.

MEMBERSHIP CHANGES, SEPTEMBER

NEW MEMBERS

Silas L. Durham, Dearborn.
John T. McLarney, St. Louis.
Lee E. Monroe, Bonne Terre.
Harry T. Randle, University City.
William R. Shaefer, Columbia.
Emil Simon, St. Louis.
G. N. Welch, St. Charles.

CHANGES OF ADDRESS

C. Abramopoulos, Gen. Hospital, to 744 Lathrop Bldg., Kansas City.
Charles H. Ball, 3021 Newstead Ave., to 3169 Grand Ave., St. Louis.
G. A. Beedle, 706 Bryant Bldg., to 1118 Rialto Bldg., Kansas City.

John H. Belyea, Keota, Mo., to Indiana.

Walter F. Cobb, Cape Girardeau, Mo., to Attleboro, Mass.

Frederick L. Dod, Kansas City, to Greenwood.

W. W. Duke, Rialto Bldg., to 406 Waldheim Bldg., Kansas City.

Charles H. Eyermann, 1722 S. Jefferson, to Grand and Gravois, St. Louis.

Walter A. Fansler, Milwaukee, Wis., to Minneapolis, Minn.

R. F. Fisher, 4922 Washington Ave., to Barnard Free Skin and Cancer Hospital, St. Louis.

R. L. Garner, Pollock, to 210 Argyle Bldg., Kansas City.

R. C. Henderson, Kansas City, to Pittsburg, Kan.

J. F. Hendrix, White Church, to Pomona.

J. A. Konzelmann, 1730 Franklin Ave., to 1237 N. Taylor Ave., St. Louis.

Leo J. Kilian, St. Louis, to Blair, Neb.

H. H. Lane, Waldheim Bldg., to 809 Rialto Bldg., Kansas City.

Lindsay S. Milne, Rialto Bldg., to 406 Waldheim Bldg., Kansas City.

W. T. Myers, Aldrich, to Greenfield.

Hugo E. Nelson, Excelsior Springs, Mo., to Sharon Springs, Kan.

C. A. Orr, Jacksonville, to Clifton City.

Isaac H. Odell, Cape Girardeau, to Enterprise, Iowa.

Harold F. Ohrt, St. Louis, to Galveston Texas.

F. M. O'Kelley, Sikeston, to Carterville.

F. W. Rathbone, Harrisonville, to St. Johns Hospital, Kansas City.

Harry S. Rees, 422 Spruce Ave., to 406 Denver, Kansas City.

J. T. Redwine, Springfield, Ill., to Doniphan, Mo.

G. B. Rush, Lathrop, to Slater.

John A. Rusk, New Bloomfield, Mo., to Rowley, Iowa.

Ed. F. Stadtherr, San Luis Obispo, Calif., to 930 Butler Bldg., San Francisco, Calif.

A. M. Townsend, Walnut Grove, to Kenoma.

D. G. Seibert, Egypt Mills, to 3835a Shaw Ave., St. Louis.

W. R. Strickland, Agency, Iowa, to Omaha, Neb.

Mark L. Underwood, Stuttgart, Ark., to Brimson, Mo.

RESIGNED OR DROPPED

Jules Baron, Pevely.

J. H. Bronaugh, Calhoun.

Maurice Breed, St. Louis.

Rodney J. Bunch, Vermont, Ill.

R. Lilbourn Byrd, St. Louis.

L. H. Collier, Glenwood, S. D.
 Patrick D. Connolly, St. Louis.
 Emery S. Coyle, Coffeyville, Kan.
 Moses I. DeVorkin, St. Louis.
 Emil T. Evers, St. Louis.
 Felix W. Garcia, St. Louis.
 Harold C. Herrick, St. Louis.
 Kenneth N. Huffman, St. Louis.
 James M. Lawrence, Albany.
 Abram C. Leggat, St. Louis.
 Peter A. Pfeffer, St. Louis.
 Herman Prinz, Philadelphia, Pa.
 Elizabeth B. Reed, St. Louis.
 Edward J. Viedt, St. Louis.
 Carl H. Wachenfeld (add. unknown).
 Otto A. Wall, Sr., St. Louis.
 Oliver C. Wenger, Manila, P. I.

DECEASED

G. P. S. Brown, Nixa.
 Samuel G. Meredith, Cowgill.

CORRESPONDENCE

TWILIGHT SLEEP

To the Editor:—The news item on page 387 of the August issue of *THE JOURNAL*, "Twilight sleep has been abandoned by the St. Louis City Hospital. The treatment was found costly and unsatisfactory," is misleading and as such requires correction. The investigation in question was conducted by Dr. Wm. Kerwin and myself and our observations were reported by us before several local medical societies. One of these papers is the property of the St. Louis Medical Society and will soon be submitted to you for publication in *THE JOURNAL*. I will anticipate this paper only to this extent: our observations fully substantiated the claims made by Kroenig and Gauss. Our results were entirely satisfactory and have encouraged us to continue the treatment in our private practice. In the City Hospital our investigation was limited from the very beginning by the appropriation granted and by the rotation of service which brought our work in the obstetric ward to conclusion on June 1. Moreover, our object of finding the truth in the maze of contradictory opinions had been accomplished as far as we were concerned, and from now on the increase in price due to the shortage of the required drugs on account of the war must justly be taken into consideration by city institutions.

Yours Truly,
 GEORGE GELLHORN, M.D.

MISCELLANY

TEN PER CENT. COMMISSION

We believe the following letters and inclosures accompanying them from the Anti-Narcotin Sanitarium at St. Louis will be read with considerable interest by our members. Such contempt for the principles of ethics as is evidenced in these propositions will receive merited condemnation. Offers of this nature and the fee-splitting evil caused the Kansas legislature at its last session to make the offense a misdemeanor. Continued violation of the ethical principles of our profession in this respect will draw a similar statute in Missouri. The officers of the institution are, president and manager, G. H. Roose; vice president, W. P. Boyer; physician in charge, H. R. Barton, M.D. The letters follow:

FIRST LETTER

ST. LOUIS, Sept. 2, 1915.

Dear Doctor:—You will be interested in knowing that our sanitarium is seemingly more favored than ever by the medical profession and the vast number of patients being sent us by physicians speaks pretty well of our methods.

We are receiving patients of all ages, from the young to the very old, and our results are uniformly good.

We well know that you as well as other reputable physicians who have the interest of their patients at heart, are very cautious about sending their patients to institutions, but we think we can secure your trust and approval if you but give us a chance.

If interested we would be glad to send you one of our illustrated booklets, which also contains a long list of doctors who have personal knowledge of our work.

Hoping for cooperative support from you, we are, Respectfully,

(Signed) G. H. ROOSE.

SECOND LETTER

ST. LOUIS, Sept. 9, 1915.

Dear Doctor:—You are doubtless aware of the fact that a great number of drug users are now being treated by city, county or state institutions and that the results are not always satisfying or complete, owing to the lack of proper restraint, environment and perhaps experience in handling such cases.

Many of those whom we have met or heard from are nervous wrecks, suffering with diarrhea, insomnia, fast pulse, prostrating weakness, depression, loss of appetite or one or more of the numerous other manifestations indicating the patient has only been taken off the drug but not cured.

Some of them on the verge of toleration have had to give up the fight and come to us for relief.

Now our contention is, and always has been, that merely taking a patient off the drug does not constitute a practical or complete cure by any means.

Patients whom we treat suffer none of the above annoying disturbances. They leave the sanitarium free from all desire, demand or necessity for the drug and no bad after-effects follow. As they take no medicines whatever the last few days of their

stay here, there is abundant opportunity for them, and us, to determine their condition before leaving the sanitarium.

If you have such a case, or one that you intend sending away to a sanitarium, it would give us pleasure to have you accompany the patient here, visit the sanitarium and see for yourself the method and character of the work.

Yours respectfully,

(Signed) G. H. ROOSE.

The inclosures accompanying the above letters, printed on separate slips, follow:

PERSONAL

Realizing the fact that it takes a great deal of time and patience on the part of the home Physician in handling cases of this kind, over and above that for which he receives remuneration, we will, upon receipt of the fee from any case you send us remit you TEN PER CENT. We request you consider this a confidential proposition.

STRICTLY CONFIDENTIAL

The following parties are addicted to some narcotic and they will doubtless be interested in literature on the subject:

NAME	ADDRESS	OCCUPATION	ADDICTION

Should any one, or more, of these parties present themselves for treatment kindly give me credit as the determining influence.

(Signed) _____

(Address) _____

Date _____

PUBLIC HYGIENE AND PUBLIC MUDDLERS

To The Star:—In view of the present agitation on the subject of medical inspection of public schools, it will not be amiss for one who has devoted a considerable part of his time to the work here, to state some facts bearing thereon.

1. The system advocated by Dr. Paquin differs in no important detail from our old system which was discontinued last year.

2. The real cause for discontinuing school inspection was not lack of funds.

3. The difficulty confronting Dr. Paquin is not dissension among the medical profession, but the presence of the "invisible government" in the affairs of the health board.

During the school terms, 1911 to 1913, inclusive, school inspection reached a very high degree of efficiency under the direction of Dr. H. DeLamater. The records of the health office disclose the fact that contagion was reduced to a minimum and practical

hygiene was taught in the schools. Fifteen physicians and eight graduate nurses devoted a great part of their time to this work.

Principals, teachers and parents will also testify that the old inspection was highly efficient, both as a means of preventing contagious outbreaks and as a means of teaching practical hygiene and sanitation. A physical record of each school child was kept, showing the physical defects and the recommendations made to correct them. Monthly reports on the sanitary conditions of schools and school districts were made. The school nurses assisted the inspectors in their routine work in the schools and afterward went into the homes, where they were needed. Ours was the only system in the country having weekly meetings of the inspectors and nurses with their chief inspector. Inspectors and nurses attended the various meetings of the parent-teachers' associations and gave practical addresses on public health and disease prevention. In every case the family physician was given absolute charge of all cases recommended for treatment, and only the children of parents too poor to provide medical treatment were taken to the city clinics.

The inspectors and nurses were chosen by competitive examination under civil service at the time when, as Miles Bulger recently remarked, it was "half way on the square."

This work was only half known and appreciated by the public of Kansas City, but was widely known abroad, so widely, indeed, that the health departments of other cities wrote here for information of our plan. Several prominent health officers, notably Dr. Kieffer of Detroit and Josephine Baker of New York, pronounced ours one of the best systems in the country. Then without any valid reason and at the cost of new outbreaks of contagion, all preventable under inspection, the whole system was wiped out at the height of its success. The Jost-Finn régime has put the work of medical inspection back ten years and has apparently worked with the determination to give it its death blow. Corrupt politics and utter disregard by those in authority for the crying need of medical inspection is at the bottom of the present situation. The excuse of lack of funds is ridiculous, for the inspectors and nurses, at the request of Dr. DeLamater, worked two months without salary, and would have worked a year if permitted, in order to save inspection. Instead, they were coolly ordered to quit and were notified that inspection was dead and would not be resurrected. These are the real facts.

Even if money was not available at the time, was it a reasonable excuse? If the health board had been sincere in its efforts to continue medical inspection it would at least have gone into the practicability of the plan for city sanitary districts, proposed last year by Dr. DeLamater. It is a strange thing also that the board suddenly decided that it was the duty of the board of education to provide the funds for inspection, after having provided money itself for several years.

I do not believe the objection to proper inspection comes from any school of medicine. I have reason to know that Dr. Foster supported the old system. In the present case I believe his objection is against political abuse of appointments and not against inspection itself. The truth is, any plan backed by the "invisible government," leaving room for the exercise of political patronage at the expense of efficiency, for instance, the ignoring of the civil service provision of the city charter, is bound to be a failure and will be opposed by those who really favor efficient school inspection.

FORMER INSPECTOR.

THE CAMPAIGN AGAINST CANCER IN MISSOURI

The most recent addition to the many agencies, national and local, now engaged in the warfare on cancer is the Department of Preventive Medicine of the University of Missouri. This department has just published in the University Bulletin a special article on the early diagnosis and treatment of cancer by Dr. F. A. Martin, instructor in pathology. The purpose of the bulletin is to call the attention of the people in Missouri to the campaign for the education of the laity which is being carried on by the American Society for the Control of Cancer, the American Medical Association, the Missouri State Medical Association and other national and state organizations, and to give a brief general survey of the cancer problem as a phase of preventive medicine.

The knowledge and skill of surgeons in the treatment of cancer has progressed, says the Bulletin, almost to the limits of what is possible and if the percentage of cures by this method, which is the only treatment that offers reliable hope of cure at present, is to be increased, the patients themselves must cooperate by seeking earlier diagnosis and treatment. On examining the histories of a large number of cases it has been found that the patients whom the surgeon failed to cure were those who came to him late in the disease when the cancer had spread to such an extent that to remove all the cancer cells would have required an operation so great that would in itself be sufficient to cause the death of the patient. On the other hand, another group of cases, which sought treatment soon after the cancer was noticed, 100 per cent. were cured. To increase the percentage of cases treated early the University Bulletin urges that laymen learn the meaning of cancer and its first warnings in order that they may go to the surgeon when the cancer is still in the early stages and the chance for cure is high.

Among the many facts already known about cancer, perhaps the most important is that the disease nearly always begins in some form of abnormal tissue. This abnormal tissue which is often easily recognized, may have existed for only a few months or it may have been present from early childhood without causing trouble, only to change into cancer in later life. These bits of abnormal tissue or groups of cells, have been named "precancerous lesions." Not all such conditions develop into true cancer, but most of them should be kept under careful observation by a competent medical adviser and removed as soon as there is real danger of malignant disease. This is the only known method of preventing cancer, as distinguished from curing it. The Bulletin describes carefully the various forms of precancerous lesions which should be regarded with suspicion. Among these are pigmented moles, cracks on the lip, blisters, scabs and similar persisting abnormal conditions of the skin. Probably only a very small proportion of these conditions become cancer but when so located that they are subject to constant irritation and when they change in color and appearance and begin to grow it is time to have them promptly attended to. Moles and warts should never be treated with caustic but the whole lesion together with its so-called roots should be removed. When a burn on the tongue or lip from smoking or other cause does not heal within a few months it is a source of danger. Generally speaking, the removal of precancerous lesions is a trivial operation requiring only local anesthesia.

After true cancer has developed it is still possible to cure a large percentage of cases if the surgeon is given a fair chance while the disease is still local. All cases of cancer are local in the beginning and may remain so for from a few weeks to several

months. It is during this period that surgical treatment offers the possibility of practically 100 per cent. of cures. Unfortunately for the patient, pain is so rare at this stage of the disease and the conditions seem so trivial that in a great number of cases the opportunity to be saved is forfeited by delay. In cancer of the breast, for instance, the cases cured by the late operation amount to about 30 per cent., but by an early operation, at least 80 per cent. are saved. If every woman who is not nursing would go to a surgeon within twenty-four hours after she finds a lump in her breast, 90 per cent. of the cases of cancer of the breast would be permanently cured.

Cancer of the tongue is perhaps the most malignant and cures by the late operation are few in number. If a small ulcer appears on the tongue consult a surgeon at once. When such an ulcer is produced by a ragged tooth, consult a dentist first and then if the ulcer does not heal within a short time after the cause has been removed it is a surgeon's task.

In almost all the common forms cancer is connected with some kind of irritation. Gallstones, for instance, should be removed, since it is established that from 4 to 14 per cent. of all cases are followed by cancer.

Cancer of the uterus gives early warning by a discharge of an unusual character at an unusual period and of unusual duration. The removal of the uterus is not a dangerous operation and if the disease is recognized at an early stage the life of a patient can be saved.

The Bulletin issues an emphatic warning against quacks and their bogus testimonials, pointing out that their method of deception lies mainly in the diagnosis. There are so many conditions closely resembling cancer that the average layman cannot distinguish between them, and it is behind such conditions which are not cancer and which would tend to heal without treatment that the "cancer specialists" take their stand and make their false claims.

The Department of Preventive Medicine will supply copies of this cancer bulletin, Medical Series No. 9, on request to the University of Missouri, Columbia, Mo.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
 Webster County Medical Society, Jan. 1, 1915.
 Sullivan County Medical Society, Jan. 2, 1915.
 Cooper County Medical Society, Jan. 16, 1915.
 Camden County Medical Society, Feb. 2, 1915.
 McDonald County Medical Society, Feb. 12, 1915.
 Daviess County Medical Society, Feb. 22, 1915.
 Christian County Medical Society, March 22, 1915.
 Ste. Genevieve County Med. Soc., March 24, 1915.
 Atchison County Medical Society, March 25, 1915.
 Benton County Medical Society, March 26, 1915.
 Schuyler County Medical Society, March 30, 1915.
 De Kalb County Medical Society, April 12, 1915.
 St. Charles County Medical Society, April 14, 1915.
 Barton County Medical Society, April 15, 1915.
 Carroll County Medical Society, April 17, 1915.
 Platte County Medical Society, April 19, 1915.
 Clark County Medical Society, April 19, 1915.
 Audrain County Medical Society, April 21, 1915.
 Putnam County Medical Society, April 24, 1915.
 Franklin County Medical Society, May 6, 1915.
 Ray County Medical Society, May 13, 1915.
 Howell County Medical Society, July 3, 1915.
 Lawrence-Stone County Med. Soc., August 25, 1915.
 Laclede County Medical Society, July 2, 1915.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society met in regular session in the City Hall, Webster Groves, September 8, with the president, Dr. R. D. Moore in the chair.

There were fifteen members present and Dr. Robert E. Schlueter, chairman of the defense committee of the state association, and Dr. E. J. Goodwin, secretary of the state association, visitors.

Dr. Howard Carter reported a case of duodenal ulcer, which presented some very unusual features.

Dr. Goodwin gave a talk on the work of the Association and the importance of county societies standing together in all matters pertaining to the enactment of laws affecting the health of the people. He emphasized the importance of *THE JOURNAL* to the Association and to the individual members and particularly impressed on the members the necessity for supporting the official publication of the Association. "Because," he said, "*THE JOURNAL* can be only what the members make it and as it is their own property they should be loyal in their support. The advertisements, being restricted to articles approved by the Council on Pharmacy and Chemistry, and firms of established reliability, deserve the first consideration of the members."

Dr. Schlueter gave a very entertaining and instructive talk on the work of the defense committee and the numerous circumstances that enter into the filing of malpractice suits against members. He drew attention to the frequent filing of a malpractice suit as a countersuit for attempts to collect a bill. Many members, he said, will sue on a bill for services rendered when they know that the amount of judgment could not be collected because the patient is judgment proof. He pointed out the folly of such an action and the ease with which a patient can file a countersuit for malpractice thus placing the physician on the defensive and causing him great annoyance, much loss of time and money. The usual purpose of the countersuit for malpractice is merely to avoid payment of the bill for services. The Association has been very successful in defending members because it is found that physicians rarely show real negligence in the performance of their duties to the sick, but on the other hand, they daily make sacrifices to relieve the suffering of their patients, which fact is often brought out in the trial for malpractice. He cautioned members against continuing to serve a patient after the doctor has observed indications that point to a desire on the part of the patient to have another physician. He cited instances where physicians insisted on remaining in charge of cases against the wishes of the patients and the result was a malpractice suit. This is particularly true of a case where a physician is called to attend the patient of another physician either in emergency or during the temporary absence of the regular attendant. Under such circumstances he advised members always to turn the case back to the family physician as soon as possible. Later if the family physician desires the services of the first attendant a feeling of friendliness and congenial relation is established which will tend to obliterate any likelihood of a misunderstanding or conflict of feeling that would result in a malpractice suit.

The members were deeply impressed with the wide influence which the defense committee has exerted, not only among patients but in the courts.

After the regular business had been transacted, lunch was served.

S. H. REYNOLDS, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of September 18

In the *Bulletin* of the St. Louis Medical Society, the first to be issued following the summer vacation, we find several interesting announcements. The "stay-at-home" officers gave an account of their stewardship in the following:

"HOW WE SPENT OUR VACATION AND YOUR MONEY"

"During the summer months while most of our members were miserably enduring their shivering vacations in the cold, damp summer resorts of the North and East, or paying large sums of money for varying degrees of discomfort in the exposition territory, your committees remained at home with their coats off and worked.

"The members of the committee have no coats of aristocratic tan or scars of plebian chigger bites to show for their labor, but they will present to you instead a library building which is clean and sanitary from roof to cellar, and an auditorium where dust and dirt are unknown quantities.

"The library building has been thoroughly scrubbed as to its floors and woodwork, each book has been removed from its shelf and cleaned and all the walls and ceilings have been covered with bright, clean, pleasing paper.

"The Bartscher Auditorium has been thoroughly scrubbed and repainted, the aisles covered with noise absorbing, cork carpet, and the projecting machine brought up to date in all its working mechanism.

"Contributors to the programs for our Saturday meetings will hale with delight the announcement that the row of seats against the rear wall has been removed, so they will no longer be forced to talk against the loud whispers of those members who drop in to exchange the gossip of the day during the scientific program.

"We hope the members will be pleased with what has been accomplished for their comfort, and will manifest their pleasure by frequent attendance on the meetings during the fall and winter."

In the editorial pages of the *Bulletin* announcement is made of additions to the medical library as follows:

"The St. Louis Medical Society is deeply indebted to Dr. Selden. Spencer for his gift of the medical library of his father, whom we lost through death during the summer vacation.

"We are fortunate in the possession of a member so unselfish as to desire to share with all his co-workers in the profession the unusual advantage of consulting this notable library.

"Dr. Spencer's father was a collector of rare works in every field of learning and many of the books and journals presented to us could only be replaced with great difficulty.

"Not content with the presentation of the strictly medical works in his library, Dr. Spencer has given us beautifully bound sets of the entire works of Huxley; Tyndall, Darwin and Spencer, with excellent portraits of each of these scientists as well as a portrait of his father done in oil. This picture will remind us always of the beautiful, useful life of Dr. Spencer and be an inspiration to coming generations of physicians traveling the path his work has made smoother and easier.

"We are fortunate also in being able to announce that Mrs. W. G. Moore will present the library of her husband to the society in the near future, together with a portrait of our former president.

"To these benefactors of medicine in St. Louis we extend this feeble expression of our gratitude and this acknowledgment of our everlasting obligation."

A further announcement about the library requests members to express their opinion concerning the necessity of opening the library on two or more nights during the week, including Saturday night, which is the regular meeting night of the society.

The program for the evening consisted of a Symposium on Drug Addiction, to which the following contributed: M. W. Hodge, M. A. Bliss and H. Unterberg.

The following applications for membership have been received:

Frederick S. Haeberle, 3206 Hebert St. Sponsors, H. Hemplemann, C. H. Shutt.

Ora Francis McKittrick, 2838 South Grand Ave. Sponsors, A. F. Koetter, R. Y. Henry.

Eugene F. McCarthy, 2030 Cooper St. Sponsors, Carroll Smith, Wm. S. Wiatt.

Ferdinand F. Haas, 5227a Virginia Avenue. Sponsors, John W. Marchildon, F. C. E. Kuhlmann.

CALLAWAY COUNTY MEDICAL SOCIETY

The Callaway County Medical Society met in Fulton, September 9, at Pratt's Theater, the president, Dr. Crews, presiding. Drs. Paul B. Magnuson and James F. Churchill of Chicago, and N. R. Rodes of Mexico were guests of the society.

Dr. Churchill gave the society an interesting and scientific discussion on cardiac irregularities, illustrating his lecture with lantern slides.

Dr. Magnuson delivered a lecture on bone surgery, with particular reference to the operative treatment of fractures. He illustrated the lecture with lantern slides showing many pictures of various fractures and the results of operative treatment. He advocated the use of ivory plates and screws in the repair of fractures.

Dr. McCall presented a case of spina bifida which was examined by several of the physicians and discussed by Dr. Magnuson.

Dr. Crews presented a case for diagnosis which was examined by Drs. Magnuson and Churchill and discussed by them. The case was thought to be one of gallbladder infection.

The attendance at the meeting was good though somewhat lessened by the bad roads. The society feels greatly indebted to our visitors for the valuable and interesting lectures and discussions given by them.

Adjourned to meet in October.

MARTIN YATES, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held an open-air meeting, September 13, in front of the Commercial Club rooms in an automobile, only five members, Drs. Hope, Howard, Schulz, Wilson and Yount, answering to roll call. In the absence of the president, Dr. Schulz presided.

A communication addressed to the society from the Cape Girardeau Association of Nurses was read and met with the approval of the society. The nurses' headquarters will be at the St. Francis Hospital, Cape Girardeau.

Dr. Hope being the only physician on the program that was present, it was suggested that he read his report at another time when attendance was better.

There being no further business, the meeting adjourned.

E. H. G. WILSON, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in Liberty Monday evening, August 30. The attendance was good and enthusiasm encouraging. Present were Drs. Clark, Sevier, Hill, Maltby, Wood, Cuthbertson, Rothwell, Gaines and Suddarth. Dr. Suddarth presided.

By special invitation Dr. Frank J. Hall of Kansas City read a paper on "Vaccine Therapy of Skin Diseases." The paper was characteristic of the doctor's thoroughness and method. He emphasized the importance of the practitioner being able to differentiate between a genuine skin disease and a systemic intoxication. He said "every thoughtful physician will espouse the vaccine theory, even if compelled to abandon it by discouraging failures." Everything depends on good vaccines, correct technic and, in pustular conditions, drainage.

Acne vulgaris, the doctor stated, is a disease of the rural districts where health is above par among the young people. He denied sexual or dietetic influence as causes. He blamed the family towel, the common powder rag and the promiscuous shaving outfit as responsible for the spread of the disease in families.

In treatment Dr. Hall said the stock vaccine as usually offered the practitioner in enormous doses is a "dead bird" and "a poor substitute." A dose that produced no reaction whatever and rated at 100,000,000 killed bacteria in acne is a waste of time. He gives a small dose of autogenous vaccine, not over 50,000,000; this produces a slight local reaction, and that reaction must disappear before the second dose is given. Two or three doses a week are usually sufficient. The course is a long one but results are brilliant in this formidable disease.

The doctor encouraged the local application of serum in erysipelas as a very effective measure. He discussed vaccines in several other common skin affections. He also exhibited various culture tubes and media. The paper was one that every member should have heard.

These meetings are worth while and the members should make it a point not to miss them. Nevertheless, some of our best men seldom or never attend and some even have not paid dues for 1915.

J. J. GAINES, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in the Circuit Court Room, Clinton, September 8. The meeting was called to order by the president, J. R. Wallis. Members present were Drs. J. R. Wallis, W. H. Gibbins, S. A. Poague, W. M. Shankland, J. H. Walton, C. W. Head, N. I. Stebbins, E. C. Peelor, J. R. Hampton, A. J. McNees, R. D. Haire, J. J. Russell, R. A. Smith, G. W. Berry, W. H. Dice and F. M. Douglass. Dr. D. A. Pollard of Calhoun, Dr. E. J. Wolf, Waukomis, Okla., and Dr. C. R. Woodson, St. Joseph, president of the State Association, were present on special invitation.

The minutes of the previous meeting were read and approved.

The secretary read an article by Dr. Victor Vaughan of Ann Arbor, Mich., on "Medical Education."

Dr. C. W. Head of Windsor reported a case of suppuration of the ophthalmic cavity with protrusion of eyeballs following a febrile attack of about two weeks, a high temperature all the time with a slow pulse and a discharge from the middle ears. On opening the mastoid no pus was found; as much as a teaspoonful of pus was evacuated from the eye cavity.

Dr. C. R. Woodson gave a splendid talk on diseases of the central nervous system (brain and spinal cord), giving an excellent history of the causes, symptoms and differential diagnosis and his manner of treatment, citing numerous cases to prove his contention that it was necessary to use very large doses of medicine, and the good results following the exhibition of the extreme maximum of medicines. All present showed their appreciation of the talk by their marked attention.

Dr. Gibbins moved the society vote their thanks to Dr. Woodson for giving such an entertaining and instructive talk. Carried unanimously.

The time and place for the next meeting, on the request of Dr. J. R. Hampton, was fixed for Wednesday, October 13, at Shawnee Mound; program, clinics and society work.

F. M. DOUGLASS, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met at Fayette, September 3, 1915, and in the absence of both the president and the vice president, Dr. A. W. Moore presided. Present were Drs. Dinwiddie, Winn, Lewis, Moore and Watts.

No clinical cases or papers were presented. Dr. Lewis gave us a talk on serum therapy, and reported fine results in some cases of furuncle in which he used the bacterin twice, with slight rise of temperature at first injection but none later on. Dr. Dinwiddie reported his success with serum injections in hemorrhage. He was requested to read a paper on burns at the October meeting.

After a very interesting session of one hour, the society adjourned to meet Friday, Oct. 1, 1915.

C. W. WATTS, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society met at Aurora, Sept. 7, 1915. The meeting was called to order at 10 a. m. by the president, Dr. W. S. Loveland. The following members were present: Drs. J. C. Hynes, C. W. Shelton, F. S. Stevenson, C. A. Moore, J. P. Andrews, J. E. Dewey, W. S. Loveland, W. I. Fulton, D. C. Adams, R. C. Robertson, H. L. Kerr, J. W. Smith, J. A. Harris, J. A. Melton, T. D. Miller and L. Henson.

Dr. J. B. Scott of Marionville made application for membership and was unanimously elected.

Dr. Wm. J. Wills of Springfield was present and was made an honorary member of the society.

The following program was rendered: "Diabetes," by Dr. H. L. Kerr, Crane; "Cystoscopic Findings," by Dr. Wm. J. Wills, Springfield; Report of Case, by Dr. F. S. Stevenson, Aurora; "Inaction of Kidney Following Typhoid," by Dr. J. W. Smith, Verona; Clinic, by Dr. C. W. Shelton, Mount Vernon.

The next meeting will be held at Aurora, Dec. 7, 1915.

R. C. ROBERTSON, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The Pike County Medical Society entertained the Pike County (Illinois) Medical Society in a joint meeting at Louisiana, Mo., September 6, with the following members present: Drs. J. J. Kennedy, Frankford; Robin J. Guy, New Hartford; C. E. Gibbs, Bowling Green; E. M. Bartlett, Clarksville; C. L. Bankhead, Paynesville; Drs. J. W. Dreyfus, T. Guy Hetherlin and W. R. Hardin, Louisiana, and F. V. Keeling, Elsberry.

Guests of the society from Illinois were: Drs. Sam B. Peacock, J. N. Barbor, F. N. Wells and W. E. Shastid, Pittsfield; H. D. Fortune and James E. Goodman, Pleasant Hill; F. M. Thurmond, Pearl; G. N. McComas and J. H. Rainwater, New Canton; C. E. Beavers, Barry; J. R. Pollock, Nebo; L. J. Harvey, Griggsville; R. J. McConnell, Baylis; Geo. J. Goodin, Detroit; Fred S. and Emma von G. Gay, Rockport, and R. G. Hereford, Ashley, Mo.

Dinner was served at the Grand Central Hotel at noon, and the meeting was called to order at the Elks' Hall at 1 o'clock.

The address of welcome was made by Attorney J. M. Matson, Louisiana.

Dr. F. N. Wells of Pittsfield, Ill., read a paper on "Ipecac," dealing especially with its alkaloid emetin.

Dr. W. E. Shastid of Pittsfield gave a splendid talk on "Is the Present Status of Medical Education Satisfactory?" which was attentively listened to and freely discussed.

Dr. C. E. Gibbs of Bowling Green, Mo., presented a very able paper on "Alcohol As a Drug," which brought forth an interesting discussion.

Dr. T. Guy Hetherlin presented a case for examination. The chair appointed Drs. Fortune, Dreyfus, Shastid and Gibbs to examine the case and make a report.

In the absence of some who were on the program Dr. Hetherlin presented a well prepared paper.

It was moved that the Elks Lodge be extended a unanimous vote of thanks for the use of their beautiful hall for our meeting place, and that the action be made a matter of record.

On motion the meeting adjourned at 4:30 p. m. to meet at Clarksville, Mo., October 4.

F. V. KEELING, M.D., Secretary.

POLK COUNTY MEDICAL SOCIETY

The Polk County Medical Society met at Fair Play, at 1 p. m., September 14. Dr. W. D. Drake, vice president, called the meeting to order. The following members answered to roll call: Drs. R. Lee Russell, R. D. Dill and A. J. Stufflebam, Humansville; Drs. J. E. Loafman, W. D. Drake and J. T. Roberts, Bolivar; Dr. C. N. Hahn, Dunnegan, and L. L. Hunt, Fair Play. Drs. T. A. Coffelt, J. W. Wills and J. E. Dewey were special guests of the society from Springfield.

Dr. T. A. Coffelt of Springfield read a very interesting paper on mastoiditis, its symptoms, pathology and treatment.

Dr. W. D. Drake read a paper on tonsillitis.

Dr. C. N. Hahn read a paper on chronic interstitial nephritis.

Dr. J. W. Wills read a paper on hematuria.

All these papers were well discussed by the members present.

Dr. A. J. Stufflebam reported a case of typhoid fever with high temperature, and Dr. Roberts one with unusual complications.

The interest manifested at the session was greatly increased by the presence and contributions of the visiting members of the Greene County Medical Society, Drs. Coffelt, Dewey and Wills.

On motion the society adjourned to meet at Bolivar on the second Tuesday in December.

J. F. ROBERTS, M.D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY

The Webster County Medical Society met in quarterly session at Fordland, Wednesday, September 15. The doctors present partook of a fine chicken dinner at the new Fordland Hotel, after which the meeting

was called to order on the spacious lawn surrounding the home of the president, Dr. J. W. Good. Drs. Good, Rabenau, Wells, Highfill, Bailey, Sayers and Bruce answered to the roll call, and we had with us as visitors Dr. Roberts of Marshfield, Drs. Beatie, McHaffie, Love, Roseberry and Hopkins of Springfield, and Dr. Roper of Sparta.

The minutes of the last meeting were read and approved, as was also the report of the treasurer.

Dr. Roseberry gave us a very interesting paper on gallbladder troubles and the importance of early diagnosis and treatment. Much discussion on this important subject then took place by all the doctors present. The burden of thought was the origin of these troubles, whether they began primarily in the stomach or in the intestine and worked upward. Dr. Roseberry in closing the discussion expressed the opinion that where we had an infection of the gallbladder, it was a surgical case and such treatment was recommended, allowing free drainage and in some cases removal of the gallbladder entirely.

Dr. W. R. Beatie read a very interesting paper on pyorrhea alveolaris with a report of two cases and the new treatment with emetin and alcresta ipecac. Both cases responded readily to this treatment. This paper was discussed at length and the many uses of this new remedy brought to light, such as treating sprue or thrush, diabetes, hemorrhage and rheumatism.

Dr. Love led in the discussion on this paper and also gave us an interesting talk and extended us a cordial invitation to attend the Southwest Missouri Medical Association meeting to be held in Springfield, November 4 and 5. Dr. Beatie closed the discussion on his paper with a résumé of the treatment.

Dr. Hopkins reported a case of abnormal appendix which he recently had under treatment and operated on and presented the appendix for inspection. This case had many obscure symptoms that made diagnosis very difficult. There was much infiltration and rupture of the appendix and a part of the cecum had to be removed. The patient made a splendid recovery following operation.

Dr. McHaffie reported a case for diagnosis which was discussed at length but finally it was decided that exploratory operation was necessary to make a positive diagnosis.

It was voted to meet in Marshfield the third Wednesday in December.

This was one of the best meetings that we have held in a long time. The attendance was very good, all the members being present except the doctors from Seymour and Dr. Adkins of Rogersville. We feel that our members ought to attend these meetings and help to make each and every one more interesting in the report of cases, reading and discussion of papers.

At the December meeting, which will be the annual meeting, we will elect officers for next year, and it will be time for the payment of 1916 dues. It is the wish of the treasurer that all members will be present and that Webster County Medical Society will be FIRST on the ROLL OF HONOR for 1916 instead of second as we were in this past year.

JOHN R. BRUCE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

PANTOPON (PANTOPIUM HYDROCHLORICUM).—A mixture of the hydrochlorides of the alkaloids of opium, containing 50 per cent. of anhydrous morphine hydrochloride. It produces essentially the effects of opium, but, being devoid of opium extractives, may be used for hypodermic administration. It is probably absorbed more promptly and is free from the nauseant odor and taste of ordinary opium preparations. Pantopon (pantopium hydrochloricum) is also supplied as Pantopon (pantopium hydrochloricum) tablets 0.01 gm., Pantopon (pantopium hydrochloricum) hypodermic tablets 0.02 gm., and Pantopon (pantopium hydrochloricum) ampules 0.02 gm. The Hoffmann-LaRoche Chemical Works, New York City (*Jour. A. M. A.*, Sept. 4, 1915, p. 877).

LAROSAN ROCHE.—Calcium caseinate, containing calcium equivalent to 2.5 per cent. calcium oxide. In the treatment of diarrheas of infants a useful food is that made from the curd of milk and diluted butter-milk. The preparation of such a mixture of proper composition being difficult to prepare in a private home, Larosan Roche is offered as a substitute. The Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Sept. 4, 1915, p. 877).

BETANAPHTHOL BENZOATE-MERCK.—A nonproprietary preparation of betanaphthol benzoate (see New and Nonofficial Remedies, 1915, p. 210). Merck & Co., New York (*Jour. A. M. A.*, Sept. 4, 1915, p. 988).

DESICCATED PINEAL GLAND, ARMOUR.—The pineal gland of normal cattle, freed from connective and other tissues, dried and powdered. There is some evidence that there is a relation between the pineal gland and some processes of development and growth. The therapeutic use of the gland is in the experimental stage. Pineal Gland, Armour, is also supplied as Pineal Gland Tablets, Armour, 1/20 grain Armour and Company, Chicago (*Jour. A. M. A.*, Sept. 25, 1915, p. 1111).

SCOPOLAMINE STABLE, ROCHE.—An aqueous solution of pure scopolamine hydrobromide protected against decomposition by the addition of 10 per cent. of mannite. It has the properties of scopolamine hydrobromide, U. S. P. It is supplied in ampules, each containing 1.2 c.c. (1 c.c. contains 0.0003 gm. scopolamine hydrobromide). The Hoffmann-LaRoche Chemical Works, New York (*Jour. A. M. A.*, Sept. 25, 1915, p. 1111).

COAGULEN, CIBA.—An extract said to be prepared from blood-platelets and to contain thromboplastic substance mixed with lactose, 1 gm. representing 20 gm. dried blood. It is said to act as a hemostatic and to be useful in the treatment of local and certain internal hemorrhages. Solutions of Coagulen, Ciba, are used locally, intramuscularly and intravenously. A. Klipstein and Company, New York (*Jour. A. M. A.*, Sept. 25, 1915, p. 1111).

CALOL LIQUID PETROLATUM, HEAVY.—A nonproprietary brand of liquid petrolatum, U. S. P., said to be derived from California petroleum and to consist essentially of hydrocarbons of the naphthene series. It is colorless, nonfluorescent and practically odorless and tasteless. Its specific gravity is 0.886 to 0.892 at 15 C. Standard Oil Company of California, San Francisco, Calif. (*Jour. A. M. A.*, Sept. 25, 1915, p. 1111).

TETANUS ANTITOXIN FOR HUMAN USE.—Marketed in syringes containing 1,500, 3,000 and 5,000 units each. Cutter Laboratory, Berkeley, Calif.

DIPHTHERIA ANTITOXIN, GLOBULIN.—Marketed in syringes containing 2,000, 3,000, 4,000, 5,000 and 10,000 units each. Cutter Laboratory, Berkeley, Calif.

ANTI-PNEUMOCOCCIC SERUM.—Marketed in syringes containing 10 c.c. Cutter Laboratory, Berkeley, Calif.

NORMAL SERUM (FROM THE HORSE).—Marketed in syringes containing 10 c.c. Cutter Laboratory, Berkeley, Calif. (*Jour. A. M. A.*, Sept. 25, 1915, p. 1111).

PROPAGANDA FOR REFORM

GRANT'S EPILEPSY CURE.—Fred E. Grant, Kansas City, Mo., sells an "epilepsy cure" on the mail order plan. Analysis in the A. M. A. Chemical Laboratory demonstrated it to be a bromide mixture containing as its essential ingredients about 15.8 gm. potassium bromid and 0.9 gm. sodium bromid per 100 c.c. (*Jour. A. M. A.*, Sept. 4, 1915, p. 894).

HYDRAGOGIN.—The Council on Pharmacy and Chemistry reports that Hydragogin (C. Bischoff and Co.), advertised as a "most wonderful diuretic and cardiac tonic," is a shotgun mixture of semisecret composition, marketed under a therapeutically suggestive name and advertised by means of unwarranted therapeutic claims. Hydragogin is said to be a preparation of digitalis, strophanthus, squill and a saponin. The report explains the objection to the administration of digitalis and strophanthus in fixed proportion because of the varying rates of absorption and excretion of these two drugs. It further cautions that since digitalis bodies must often be given to the point of beginning toxic action in order to obtain the full therapeutic effect, it is obvious that the administration of a mixture of digitalis, strophanthus, saponins and squill is especially liable to induce serious toxic effects which cannot be distinguished from the symptoms of the disease (*Jour. A. M. A.*, Sept. 4, 1915, p. 894).

WILLIAMS' SYRUP OF MALT.—The Council on Pharmacy and Chemistry reports that Williams' Syrup of Malt is ineligible for New and Nonofficial Remedies because it is an official article marketed under an unofficial title; because unwarranted therapeutic claims are made for it, and because the claims made are apt to lead the public to depend on it as a curative agent in serious diseases (*Jour. A. M. A.*, Sept. 4, 1915, p. 895).

FILUDINE.—This is a French proprietary sold in this country by Geo. J. Wallau, Inc., New York. It is offered as a remedy for "biliary insufficiency," "hepatic insufficiency," "intestinal dyspepsia," "all affections of the liver (diabetes, cirrhosis, cancer, etc.)," "malaria," "obesity" and "tuberculosis." The statements in regard to the composition of Filudine are unsatisfactory and even contradictory. The Council on Pharmacy and Chemistry reports that Filudine is a mixture of semi-secret composition; that the therapeutic claims are manifestly unwarranted. The name is not indicative of the composition, whatever that may be, and no rational excuse is offered for the combination of liver and spleen extracts (with or without bile extracts) with "thio-methyl arsinat" or "thio-cinnamate" of caffeine (*Jour. A. M. A.*, Sept. 18, 1915, p. 1045).

GLOBEOL.—Globeol is sold by Geo. J. Wallau, Inc., along with Urodonal, Jubol and Filudine. The Council on Pharmacy and Chemistry reports that when the description offered by Wallau is divested of obscuring verbiage, Globeol appears to be evaporated horse blood mixed with small quantities of colloid (dialyzed?) iron and manganese and a "dash" of quassia. The Council declared Globeol ineligible for New and Nonofficial Remedies because its composition is semisecret; because unwarranted therapeutic claims are made for it and because the asserted combination is irrational (*Jour. A. M. A.*, Sept. 18, 1915, p. 1046).

VERLIE GATLIN WRINKLE REMOVER.—The Verlie Gatlin Beauty and Wrinkle Treatment was a Denver mail order concern which promised to remove facial blemishes of all sort and in other ways to make its customers (dupes) beautiful. A postoffice fraud order has been issued against the promoters of this medical fake (*Jour. A. M. A.*, Sept. 18, 1915).

THE HOROWITZ-BEEBE CANCER CURE.—Dr. J. W. Vaughan, Detroit, protests against the unauthorized use of his name in connection with the Horowitz-Beebe cancer cure, Autolysin. A private letter written one week after beginning trials with the cure to Dr. Beveridge was made to do service as a testimonial in a lay magazine (*Jour. A. M. A.*, Sept. 18, 1915, p. 1048).

STRYCHNINE NOT A CARDIAC TONIC.—As a result of investigations carried out in the Massachusetts General Hospital at Boston, Dr. L. H. Newburgh concludes that there is no pharmacologic or clinical evidence which justifies the use of strychnine in the treatment of acute or chronic heart failure (*Jour. A. M. A.*, Sept. 18, 1915, p. 1032).

MICAJAH'S UTERINE WAFERS AND PISO'S TABLETS.—The A. M. A. Chemical Laboratory has determined that Micajah's Uterine Wafers and Piso's Tablets are practically identical—a mixture of dried alum, borax and boric acid. While Micajah's Uterine Wafers are advertised to the medical profession, Piso's Tablets are a "patent medicine." The claims made to the public for Piso's Tablets are silly and mischievous—but no more so than those made to the medical profession for Micajah's Uterine Wafers (*Jour. A. M. A.*, Sept. 25, 1915, p. 1128).

EPISAN (BROBOR).—The Council on Pharmacy and Chemistry finds Episan, recently renamed Brobor, ineligible for New and Nonofficial Remedies. Neither name indicates the active ingredients—potassium bromid 44.3 per cent., borax 41.2 per cent., zinc oxid 3.68 per cent., and amyl valerate 4 per cent. A physician prescribing the preparation under either name would not realize that he was administering borax, and therefore would not take the precaution to watch the intestines and the kidneys. Also, he would not realize that the treatment was essentially a bromid treatment. There is no evidence to show that borax is harmless, as claimed, or that either borax or zinc oxid is a nerve sedative. (*Jour. A. M. A.*, Sept. 25, 1915, p. 1130).

BOOK REVIEW

ANNALS OF SURGERY. Annals of Surgery for September contains several articles on fractures which make this number one of special importance to the general practitioner. The articles, comprising what might be termed a fracture symposium, are "A Review of the Literature of Fractures," by Thomas W. Huntington, San Francisco; "End Results of Bone Fractures," by W. L. Estes; "Autoplastic Repair of Fractures of Neck of the Femur," by Charles Davison, Chicago; "Extension and Reduction of Transverse or Serrated Fractures of the Femur," by Herbert Gifford, Syracuse; "Notes on Fractures," by Wm. J. Ryan, Philadelphia; "On Fractures of the Sesamoid Bones of the Thumb," by Penn G. Skillern, Jr., Philadelphia.

An article by G. W. Crile, Cleveland, on "The Phenomena of Acidosis and Its Dominating Influence in Surgery," presents that writer's views of this topic in a very concise manner.

Other interesting papers are "Arthroplasty of the Elbow," by Astley Paston Cooper Ashhurst, Philadelphia; "Empyema," by Howard Lilienthal, New York; "Banti's Symptom-Complex with Relation to Splenectomy," by John Bapst Blake, Boston; "Chronic Intestinal Stasis as Produced by Obstruction at the Ileocecal Region and at the Hepatic Flexure," by R. Bland Williams, Norfolk; "Diphtherial and Pseudodiphtherial Primary Cutaneous Infection," by Arthur E. Billings, Philadelphia.

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ORIGINAL ARTICLES

INTRA-OCULAR SARCOMA—A REPORT OF FOUR CASES*

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KANSAS CITY, MO.

During my membership in this organization I do not remember to have heard any one read a paper on this subject. Many have written on cancers and other malignant tumors about the body, but none has especially mentioned sarcomas of the choroid coat of the eye. The reason, I suppose, is that those who have had the most experience in this line of ophthalmic surgery hesitate to prepare a thesis for fear it may lack interest, as very few outside of an eye clinic ever see this disease in its early stages. Yet it is not so uncommon; otherwise I would not be able to collect, in a limited time, the few cases I desire to report.

We all know the malignant nature of sarcomas. Indeed, they are more dangerous than cancers, but fortunately not so frequent. As the layman judges the malignancy of any growth or discharge by its color, especially if it is green, so do we dread these tumors the more if they are black. We are taught to consider the melanosis especially malignant. Yet none can explain how a little brown pigment in one cell can make it more vicious than its neighbor. I am inclined to think that one is just as bad as the other; for I have seen the white sarcoma return *in situ* or infect the liver as often as the black.

Since these tumors within the eye are of both natures or mixed, the oculists' opinion of their relative malignancy should carry some weight. Again, we see more sarcomas of the eye proportionately than the general surgeons do of like tumors in other regions of the body, excepting, perhaps, sarcoma of the parotid gland,

which, if it grows slowly and is let alone, is relatively benign. This is not true of sarcomas growing within the eye. They are all very malignant and if not removed, together with the eye, they will destroy the patient. Fortunately these tumors of the choroid cause blindness and pain at an early date of development, which compels the sufferer to seek an explanation and help. Therefore we are usually the first to discover them, long before they perforate the eyeball, and infect the orbital tissues. For this reason we are able to save the lives of more than half our patients—a record that few general surgeons can claim for sarcoma elsewhere.

Unless one has had much experience in ophthalmic practice he would think that the presence of an intra-ocular tumor could be easily determined. Not so. All experts will agree that this is often one of the most difficult problems in diagnosis, and it must be admitted that many times a tumor is not suspected until the enucleated eye is opened and explored. If with the ophthalmoscope one can illuminate the vitreous chamber and see a growth or a detached retina with a suspicious reflex behind it, he may safely diagnose intra-ocular tumor. But we cannot always do this, because in the majority of cases the media are opaque. Transillumination may sometimes help, but it is unsatisfactory.

I think the history of the case is of the greatest assistance. An eye of an adult which has been blind and suddenly becomes inflamed, hard and painful is an object of serious suspicion. The first attack of acute inflammatory glaucoma in an eye with a choroidal tumor is usually the last, for the tension and pain will not subside until the neoplasm breaks through the sclera. Yet there have been cases reported in which an intra-ocular tumor did not perforate but stopped growing, degenerated and remained quiet. The fact that some have reported such cases is strong proof that the most experienced have failed in the diagnosis; for no man would hesitate to recommend immediate enucleation if he knew a malignant tumor was within the eye.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May, 10-12, 1915.

It is not unusual for patients suffering from chronic Bright's disease, diabetes or arteriosclerosis, with high arterial tension, to be attacked with acute inflammatory glaucoma caused by the rupture of an intra-ocular artery. Then is the eye suddenly blinded and the patient distracted by pain. In these cases the history of chronic illness is of the utmost importance in the diagnosis, for so far as the condition of the eye is concerned there can be no differentiation between hematoma and malignant tumor.

Of course, when this accident happens to an eye which we know does not contain a sarcoma it is easy to give immediate relief by incising the sclera and evacuating the blood. But this would be a dangerous procedure if sarcoma was the cause. Consequently the surgeon should give himself the benefit of a doubt and remove the eye.

Although I have not seen any cases, there are reports of sarcomas developing in eyes which have been wounded; perhaps from an excitation of a Cohnheim islet. Dermatologists fear the pigmented mole. Oculists fear bad degenerated eyes, and if a phthisical eye takes on pain and inflammation after years of quietude it is well to suspect malignancy and act accordingly. Therefore, because of the doubts and difficulties in diagnosis, no man should feel mortified when he unexpectedly finds a sarcoma in an eye which he has removed.

If a case is neglected and a neoplasm breaks through the sclera involving the tissues within the orbit, all one can do is to remove the entire orbital contents. But, "He who enters here leaves hope behind," for at the time of evisceration the liver or some other internal organ will almost surely contain a metastatic focus.

It is needless to picture the local condition of a returning sarcoma or to dwell upon the hopelessness of it. Roentgen ray, erysipelatos inoculations and other means familiar to all may do good in sarcoma elsewhere, but about the eye they are useless.

Sarcomas are propagated by the mother growth through the venous blood-stream and sometimes by the lymphatics. So the channels in the tumor and the small veins around it may contain minute sarcomatous thrombi, which, if the eye is removed roughly, may be forced into the circulation with dire results. This may be one of the reasons why so many patients succumb shortly after the evisceration of the orbit; for few take the precaution to clamp the veins at the foramen and fissure before scooping out the contents with the periosteal elevator. This manipulation is necessarily rough, consequently particles of tumor tissue are squeezed into the veins and carried off. This suggestion may be unnecessary, because I notice our best surgeons when removing cancers and other malignant

growths handle the parts with great care and delicacy.

The following four cases are classical and demonstrate the truth of the introductory remarks.

CASE 1.—Mrs. B., the wife of a chef, in good circumstances, came to me one morning suffering from the most intense glaucoma. It was her first attack. She said the eye had been practically blind for several months, but she had not consulted anyone, fearing something dangerous would be discovered. At the time I saw her she was in great pain, the eye was red, edematous and stony hard. Because there was no reflex, which would have been the case had the disease been simple glaucoma, I made the diagnosis of either profuse intra-ocular hemorrhage or tumor. She consented to have the eye taken out, so I removed it that afternoon. There was a soft sarcoma about the size of a little pea growing in the choroid immediately at the side of the nerve head. The eye had been cut away with curved scissors so no nerve stump was attached to it. On discovering the malignant nature of the tumor, I reanesthetized the patient, found the nerve and cut it away as close to the foramen as possible. She made a perfect recovery; that is there was no return *in situ* of the neoplasm nor did the liver or other internal organs become involved.

There are two points in this case deserving comment: (1) A malignant eye should never be removed with curved scissors; (2) the smallest tumor can excite the most intense glaucoma.

CASE 2.—Mr. N., collector for a water company; aged 37; a slightly built, nervous man, consulted me because of an intense glaucoma of his right eye. It was his first attack and had caused him great pain for three weeks. I could get no history of previous blindness. There was no deep reflex, nor could the eye be illuminated by the ophthalmoscope. Consequently, my diagnosis was either hemorrhagic glaucoma or choroidal tumor. He promised to return immediately for operation, but I did not see him again for two weeks, when I made the classical iridectomy. As soon as the tension was relieved the pain ceased, but the wound gapped and would not heal. The eye was then removed. It contained a large black sarcoma. He made a rapid recovery and wore an artificial eye. Two months after, two small tumors appeared in the orbit. The orbit was eviscerated. Two months after this he was discharged well. Several times following the last operation we examined him for diseased foci, and four months after his discharge we discovered a tumor in his liver about the size of an orange. Yet he was comfortable, but weak. He died shortly afterward. No necropsy was obtained.

Comment.—Metastasis can take place in distant organs before the eye is perforated and before thrombi form in the large veins of the orbit. Enucleation at an early date is no guarantee against local recurrence or distal infection.

CASE 3.—Mr. L., lawyer, about 70 years old; a lean, active man with a good history. I saw this patient in consultation for chronic inflammatory glaucoma. He had been suffering considerable pain for three months. The eye was very hard and inflamed, with a cataractous lens in the pupil. There was no anterior chamber. Not suspecting any thing other than glaucoma, I made, under great difficulty, an iridectomy, and since the lens cortex pushed through the wound I was compelled to

lengthen the incision and extract the cataract. While we were congratulating ourselves on the happy termination of such an operation a wine-colored watery vitreous was expelled from the eye followed by pure blood. This accident was accompanied by great pain. Of course under such circumstances nothing could be done but to remove the eye. Being a man 70 years old with sclerosed arteries, I thought it best to eviscerate the eyeball rather than to enucleate it. Under general anesthesia the cornea was cut away and the opening enlarged. Fortunately I had not a curet and in attempting to clean out the globe with the finger I discovered a sarcomatous tumor. The eye was then removed. The tumor sprang from the choroid at the fundus. The patient made a rapid recovery and died some time after from a senile disease.

CASE 4.—Mr. L., a native of this state about 34 years old, had been my patient for many years. I had fitted and corrected his glasses several times. He was a man of good appearance and excellent health, with a fair family history. One day he consulted me because of a cloud before his right eye. He had a detachment of the retina at the outer lower fundus, and since the detachment was spontaneous, independent of myopia or injury, a tumor was suspected. By no means in my possession could I positively determine it. Under careful asepsis the subretinal fluid was drawn off; the operation being performed at home. When I saw him again the detachment was as large as before, and since he was not suffering and the eye soft he was advised to go home and report again if at any time the eye became painful or inflamed. Since it is extremely distressing to the surgeon to remove an eye for a tumor and find nothing in it, I thought it best to give him the benefit of the doubt. He returned in six weeks with a painful glaucoma, and the eye was immediately enucleated and a melanosarcoma found within. This happened three years ago, and since the man is well there is little danger of local or distal return.

DISCUSSION

DR. JOHN GREEN, JR.: One may infer from Dr. Thompson's introductory remarks that he had some misgivings as to the propriety of discussing what some may regard as a strictly ophthalmologic topic before a gathering of physicians representing all branches of practice. In my opinion no apology is needed for bringing to the attention of our members a consideration of choroidal sarcoma, a disease invariably destructive of the eye and frequently of life itself. Sarcoma of the choroid is, indeed, a rare disease. Fuchs found only ninety-one instances in 137,545 eye patients (0.066 per cent.), while Pawel collected 248 cases in 351,777 eye patients (0.07 per cent.). My belief is that the disease is decidedly more frequent than the above statistics indicate, as I have personally seen four cases in a limited private practice in the last three years. As Dr. Thompson's experience closely tallies with mine, it is quite likely that the collective experience of American oculists would show a higher incidence of this disease than the European statistics indicate.

It is important that physicians should be acquainted with the symptoms of this disease, so that the patient may secure the advantage of early diagnosis and consequent early operation. For it is only in the incipient stages of choroidal sarcoma that one can feel reasonably certain of eradicating the disease by enucleation. Most oculists agree that the majority of choroidal sarcomas are not seen by them until the globe has been partially filled with the growth. Then the patient seeks advice not so much for failure of sight as for pain due to increased intra-ocular tension. Too often, metastasis has already taken place and enucleation in no wise averts a fatal issue.

An early symptom is failure of vision. Of course, if the tumor is situated at or adjacent to the macula, the failure of sight is very great and the patient is much more likely to reach the hands of the ophthalmic diagnostician promptly than when the tumor is situated more peripherally and evokes only the sensation of vague disturbance of sight. There may be a positive peripheral scotoma or the loss of a large sector of the field due to extensive separation of the retina. It is a fact that simple progressive failure of sight, if unilateral, is very apt to be disregarded or at least does not impel the patient to seek ophthalmic attention promptly, and it is only when pain occurs through the development of secondary glaucoma that advice is sought.

We are entirely ignorant as to the etiology of sarcoma in general and choroidal sarcoma in particular. Trauma has been thought to have some bearing and, as a matter of fact, in 29 out of 259 cases in Fuch's series there was a history of injury to the eye. A careful analysis of these cases and others subsequently published has convinced Parsons that there is not sufficient evidence that traumatism is of etiologic importance.

The old division into melanotic and leukosarcoma founded on the presence or absence of pigment still persists, though, as pointed out by Parsons, it is often scientifically inaccurate, or at least ambiguous. The pigmented tumors outnumber the nonpigmented in the proportion of eight to one.

Metastasis takes place by way of the blood vessels to the liver, lungs, heart and other organs. Local metastasis in the eye is very rare. Necrosis of the tumor is not uncommon and is the most frequent cause of hemorrhage, which was noted by Verhoeff in twenty-five out of fifty-five cases examined histologically. He points out the danger of overlooking such cases and mistaking them for hemorrhagic glaucoma.

I wish to emphasize Dr. Thompson's statement that "all intra-ocular sarcomata are very malignant and if not removed together with the eye will destroy the patient." This is a point that cannot be too strongly insisted upon.

The diagnosis is not always an easy one, especially where the patient is seen for the first time with a massive separation of the retina which masks the intra-ocular growth.

Rarely a system of blood vessels having an entirely different mode of distribution to the retinal vessels can be seen through the separated retina at the apex of the growth. But this is an exceptional finding. When the separated retina is closely applied to the growth, and the typical mushroom contour can be made out, there is comparatively little difficulty. As even large tumors may not produce increase in the tension, little dependence can be placed on the tonometric reading for diagnostic purposes.

One alternative diagnostic possibility should always be borne in mind, viz., choroidal gumma, while the differential diagnosis should ordinarily be possible on clinical signs alone, a history of syphilis with a positive Wassermann should impel us to give the patient the benefit of the doubt and apply intensive antisyphilitic treatment.

Dr. Thompson points out the frequent failure of transillumination to give satisfactory information. Of course, when the tumor is situated at or near the posterior pole, ordinary scleral transillumination cannot conceivably give any information. To meet the difficulty in such cases, Lancaster has devised a transilluminator consisting of a small Tungsten lamp mounted at the end of a flexible copper rod, which is connected with a pocket battery. Through an incision in the conjunctiva, the lamp is passed to the posterior pole of the eye and the globe thus transilluminated from behind. This device was of great service in

establishing a diagnosis in a case of sarcoma at the posterior pole covering the optic disk (Greenwood).

It is often very difficult to convince a patient of the necessity of early enucleation, especially when there still remains some vision. He is reluctant to sacrifice a painless, good-looking eyeball and is apt to drift from one oculist to another in the hope that an opinion which will not mean the sacrifice of the eye may be secured. I recently enucleated the eye of a man who in the course of three years had been seen by three oculists in Springfield, one in Kansas City and two in St. Louis, all of whom had made a correct diagnosis of sarcoma of the choroid. Only when his eye became stony hard and painful did he consent to its removal.

Dr. Thompson states that the Roentgen ray "may do good in sarcoma elsewhere, but about the eye it is useless." This statement is certainly true as regards choroidal sarcoma, but not invariably so as regards sarcoma of the orbit. A striking case of complete disappearance of an orbital sarcoma under the influence of Roentgen rays was reported some years ago by Fox.

Dr. Thompson's warning about gentle manipulation of the involved eyeball so as not to sweep sarcomatous thrombi into the circulation is well taken. This advice is all the more important if we are dealing with an extra-ocular extension and have to do an exenteration of the orbit. For the double purpose of compressing the vessels and severing the optic nerve the ordinary wire snare should replace the curved scissors.

In Case 2, reported by Dr. Thompson, he was unable to differentiate between choroidal sarcoma and hemorrhagic glaucoma. May I ask why he performed iridectomy? This operation is almost certainly useless in hemorrhagic glaucoma, and is certainly contraindicated in choroidal sarcoma. If, in cases of reasonable doubt, any measure short of enucleation is adopted, then sclerocorneal trephining should, in my opinion, be the operation of choice.

CONGENITAL APHAKIA—A CLINICAL REPORT*

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CASE 1.—A. S., aged 15, male, height 5 feet 6 inches, weight 145 pounds. First seen Jan. 6, 1915. Under observation up to April 10, 1915. Father's age is now 48, mother 42. There is no consanguinity between them. The father descends from English ancestry; the mother from English and Irish. Parents and grandparents were born in Missouri, as was the patient also. Has a brother aged 21 years, in good health. Has two sisters, one aged 12 and one 9 years, both in good health. One brother and two sisters died in infancy. The father is a carpenter. The entire family purport to be in good health and to have good eyesight except our patient.

Examination.—Vision right eye, 3/60; near type 300. Vision left eye, 3/60; near type 300. Near vision was at from 3 to 4 inches only, by diffusion circles formed on the retina. The ophthalmometer showed the following corneal measurements: Right eye, 47.5 D. at 90; 44.25 D. at 180; astigmatism, 3.25 D.; left eye, 47.5 D. at 90; 43.50 D. at 180; astigmatism, 4 D. Refraction under 1 per cent. atropine solution instilled three times a day for three

days. Skiascope: Right eye + 12.50 S. + 2.25 C. A. 90; left eye + 12.50 S. + 2.25 C. A. 90.

Reading test made with a perforated disk with an orifice 3 mm. in diameter. Right eye + 10.00 S. + 3.00 C. A. 90 = 6/24; left eye + 10.00 S. + 2.25 C. A. 90 = 6/36. With + 3 D. S. added to the above near vision = type 75 at from 6 to 11 inches.

Repeated tests with the phorometer showed an esophoria of from 8 to 12 degrees. The abduction was from 24 to 28 degrees and the adduction from 34 to 40 degrees. There was no history of diplopia, but I noticed at different times while he was being examined that one eye or the other sometimes rotated independently until the cornea touched the caruncle.

There was a fairly constant nystagmus with horizontal oscillations. One could also occasionally observe some spasmodic rotary twitches. The irises were gray with a fine yellow circle near the periphery and appeared to present a slight tremulousness. I say appeared because although this tremulousness was noted by different ones of my oculist colleagues, I have repeatedly studied it carefully and am unable to satisfy myself positively whether it is a true tremulousness of the iris or only an appearance of it due to the tremor of the eyeball from nystagmus. If present it is slight and the motions follow those of the nystagmus to such an extent that it is well nigh impossible in this case to decide whether the tremulousness is in the iris *de facto* or only a part of the tremor of the eyeball as a whole. There was a marked twitching of the eyelids, worse in the upper than the lower, which occurred spasmodically with efforts at turning the eyeballs and with trying to fix objects. The visual fields are normal and color perception is normal.

The pupil reacts normally. The media are clear and the fundi normal in either eye, with the exception that the disk appears about one fifth to one quarter as large as normal by the direct method without a lens. By using a suitable plus lens to correct the hyperopia, the disk assumes a more normal proportion, however. I have not been able to discover any anomaly in the interior of the eyeball in the way of hyaloid vestiges, coloboma or retained medullary sheaths, etc. One of my colleagues thought he could discover some hyaloid vestiges. Apropos of this subject I wish to mention that Bribach has demonstrated that the canal of Cloquet normally persists but becomes transparent and invisible. I could not discover any visible vestiges of the fetal vascular membrane of the lens or of the canal of Cloquet or its contents.

The eyeball seemed abnormally short on rotating it upward and inward and inserting the finger into the orbit behind the ball on the outer side. This, however, is a clinical observation only, and exact dimensions of the eyeball cannot be given. There were no adenoids and no hypertrophy of the tonsils. The dental arches and articulation are normal. Hearing tests gave normal results for the register and for the hearing distances for the watch, voice, and whisper. The tuning-fork tests were normal.

In the opinion of Dr. William Duke, the subject shows signs of hypoplasia, especially about the hands and wrists, which do not have the appearance of the hands and wrists of a boy of 15, but look thick and bulky.

The Purkinje-Sanson test for lens images failed to reveal any. I have made this test repeatedly in this case with dilated pupils and under varying conditions of illumination and with different lights, as a candle, the luminous

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

ophthalmoscope, the frontal mirror and the Ziegler-Nernst lamp. In the normal eye the three reflected images are easily seen. The room should be totally dark. With the candle or other source of light 45 degrees to one side of the patient's line of vision, and the observer's eye 45 degrees to the other side, the three images can be easily made out. By moving the candle the bright corneal image can be seen moving in the same direction as the candle. By looking deeper in the pupil, one may see a fainter image of the light also moving in the same direction as the candle. Another and brighter image may also be seen in the pupil of the normal eye moving in a direction opposite to the candle. This is the image from the posterior surface of the lens, which, of course, presents a concave surface toward the observer, and its image is quite distinct and is an inverted real image. The corneal image being the reflex from a convex surface is upright and virtual. It is very bright. The image from the anterior surface of the lens in the normal eye while the same in kind as the corneal image is very faint and the hardest of the three to see. As explained by Roemer, this is because the light is reflected not only from the anterior surface of the lens but also from the anterior layers of the lens substance, which causes the image to be somewhat blurred. However, in the normal eye and by moving the light around, its movements can be followed with certainty.

In our subject no lenticular images could be discovered. The corneal image was normal. According to Roemer this is the most positive test of the presence or absence of the lens.

In view of all the conditions present, I think one is justified in concluding that no adult crystalline lens is present. I would not say that the ectodermic germ of the lens did or did not enter the optic cup, but evidently if it did enter it did not develop properly.

The theory of Manz that the eyeball cannot grow without the lens has been abandoned. In this connection it is interesting to refer to the experiments of Warinsky and Fol. By thrusting into the embryo of a hen's egg with the thermocautery, they succeeded in arresting the development of the anlage of the crystalline lens while the growth of the optic vesicle followed its course.

Further, in the embryo of *Amphiuma* the secondary optic vesicle is already formed before a trace of the ectodermic germ of the lens appears.

Koelliker in the embryo of the rabbit and Goette in the embryo of *Bombinator* have observed delay in the development of the anlage of the lens.

Recently Spemann, in experiments on the embryo of *Rana fusca* with galvanocautery

and hot pins, has succeeded in delaying or entirely preventing the growth of the anlage of the lens.

The experiments of Spemann and Herbst were followed up by Lewis, who has shown by destroying the optic vesicle in the embryo of Triton that the lens depends for its origin on the optic vesicle coming in contact with the ectoderm. The ectoderm failed to produce the anlage of the lens only when the optic vesicle was so destroyed with a red hot needle that it did not come in contact with the ectoderm. Lewis elaborated these experiments further in his work on the embryo of frogs with delicate apparatus devised for the purpose. He succeeded in removing various primordial optic organs, in transplanting them and in altering their normal relations and thus their reciprocal influences. Suitable controls were maintained, and his report is entirely commendable. His conclusions are as follows: "1. Neither a lens nor the trace of a lens will originate from the ectoderm if contact with the optic vesicle is prevented. 2. There is no predetermined area of the ectoderm which must be stimulated in order that a lens may be produced. On the contrary, various portions of the ectoderm when stimulated by the contact of the optic vesicle may and do give rise to a lens. Not only will a lens arise from various places on the ectoderm as a result of contact with the optic vesicle, but the optic vesicle of one species may cause a lens to arise from the ectoderm of another species. 3. Various portions of the optic vesicle can stimulate lens formation. 4. In normal development the lens is dependent for its origin on the contact influence or stimulation of the optic vesicle on the ectoderm."

In the higher vertebrates, the Amniota (birds and mammals), the growth of the amnion (Nussbaum) corresponds to the time of the thickening of the ectoderm into the germ of the lens. The ectoderm therefore depends on the amnion for protection and is influenced more or less by it. It is quite possible (Van Duyse) that malnutrition or other pathologic conditions may result in nonformation or imperfect formation of the lens.

Not only must the primitive ectodermal anlage of the lens become enclosed within the optic vesicle, but it must continue to grow. This it does chiefly toward the periphery and by cell division with the production of karyokinetic spindles in the nuclei.

Huschke has shown that fully one third of the growth of the lens occurs after birth.

If, as a result of some inscrutable influence, this growth fails to occur (aplasia) there will be no lens, for the primitive lens sac is microscopic. Thickening of ectoderm to make the anlage of the lens begins in the third week of embryonic life and the invagination of the

lens sac occurs in the fourth week. From this time there normally is a steady proliferation of lens cells. The phylogenetic memory of growth of the lens is very strong, dating from certain primitive forms of invertebrates as sea anemone, branch Coelenterata, and asteroides (star fish), branch Echinodermata, and many others. These animals preceded vertebrates by whole geologic eras and mammals by still greater reaches of time. In them we find the simplest form of eye. As explained by me in a paper on "Evolution of the Eye," submitted to this Association in 1902, the eye of anemone and medusa are the simplest known. The eye is not equally developed in all these, but in a general way may be said to consist of pigment spots with sensory cells which are simply cuticular thickening, in some cases forming a clearly recognizable lens.

The next higher branch, the Echinodermata, have innumerable compound facet eyes, the cells of the epidermis becoming clear and refractive to form cornea and lens.

In the next higher branch, Vermes, ocelli, or simple eyes, are found sunken beneath the surface, but derived from the ectoderm. Phylogenetically then, the lens vastly antedates the eyeball. The formation of the lens from the outer body epithelium, ectoderm, is uniform throughout all forms of animal life which are equipped with eyes, and even certain eyeless forms show the same lens formation in the embryo, to lose it in the adult.

This teaches us how very powerful must be the impulse to lens formation and explains the great rarity of nonformation. It is only far up in the scale of creation in the branch of vertebrates that a slightly movable, somewhat rounded eyeball occurs in class Reptilia. In none of the introductory orders of vertebrates (Tunicata, Acrania, Cyclostomata, Elasmobranchi, Ganoidii) is there anything but a rudimentary eye. The eyeball is a vastly later, as well as a higher type, and accordingly anomalies of development are so frequent that everyone has seen them.

In some of the reported cases of congenital aphakia, the lens was formed in the embryonic stage, but destroyed in the fetal stage by some intra-ocular disease process, traces of which were discernible in the eye.

This was evidently not the case in our subject, as there was no sign of any preexisting pathological process.

In view of the integrity of the ocular tissues, degeneration and absorption of the lens should be excluded. In the absence of decisive postmortem dissection we can only say that this is evidently a case of aplasia or hypoplasia of the lens. It is even possible that the ectodermic anlage of the lens failed to enter the optic

vesicle, but we cannot logically premise this condition.

Synopsis of nineteen cases hitherto reported:

Baker: Boy, aged 16. Clinical report: Eyes apparently normal except that there was no accommodative power. + 250 D. S. 02 = Snellen No. 5 at 12 inches. Pupils were dilated with atropin and illuminated, and *no lens* could be seen.

Cherryholmes: Boy, aged 8. Eyeball extraordinarily small. Interpupillary diameter $1\frac{1}{8}$ inches. Physique dwarfish. Diagnosis: Congenital aphakia and microphthalmus. There was rotary nystagmus and a convergent strabismus of 25 degrees. Vision right eye, $5/200 + 30$ D. S. = $1\frac{1}{200}$. Vision left eye, $5/200 + 30$ D. S. = $\frac{1}{200}$. Under observation eight years, during all of which time these lenses were worn with benefit.

Gratiot: Clinical report: A case of bilateral corectopia and absence of both lenses. Vitreous opacities. Plaques of choroiditic atrophy. Reported as a congenital condition, and both lenses probably destroyed by intra-ocular disease either before or after birth.

Toufescia: Clinical report of case in the service of Professor Morax. The case suggested aphakia and was very minutely and accurately analyzed, but when subjected to the Purkinje-Sanson test by Professor Tscherning in the laboratory at the Sorbonne, lenses were demonstrated in the eyes.

Helmholtz: Case of a girl aged 2. Postmortem examination: Left eye presents two chambers lined with pigment and filled with a clear amorphous substance. No retina; no cornea; *no lens*. Right eye, same structure. Rudimentary lens present. Helmholtz admits that lacking contact of the optic vesicle with the ectoderm no lens is developed.

Von Graefe, Leber, Swanzy: Postmortem. Infant aged 8 months. Dermoid adherent to globe. Cornea formed by conjunctiva. Iris fused with false cornea. No anterior chamber; *no lens*.

Kruekow: Boy, aged 11. Right eye, nystagmus. Blind. Length 23 mm. Transverse 20 mm. Cornea 18 mm. Trace of old perforation of cornea. Iris atrophied and adherent to cornea. *No lens*. No capsule. Zonule of Zinn is applied to the cornea. The retina is degenerated. Author admits expulsion of lens through the corneal perforation. Left eye, microphthalmus; nystagmus. Fingers at 12 inches.

Laforge: Postmortem. Globe size of small pea. No optic nerve; *no lens*; no iris.

Pflueger, Manz: Postmortem. Adult male of good physique. One eye normal; the other globe rudimentary with a large dermoid. Length of globe, 16 mm.; transverse, 13 mm.; cornea, 5 mm. Transparent; no retina; no vitreous; *no lens*. The author admits degeneration of the embryonic lens.

Hocquart: Postmortem. Woman, aged 35. Bilateral cryptophthalmia. Rudimentary globes. Right eye, length, 12 mm.; transverse, 17 mm. Left eye, length, 14 mm.; transverse, 17 mm. Sclera normal; cornea rudimentary; no anterior chamber; muscles rudimentary. Ciliary process rudimentary. Some fibers of zonule of Zinn present. *No lens*; no iris. Right eye, choroidal cleft closed. Author disproves intra-uterine inflammation in this case. He considers it aplasia of lens and anterior segment of globe.

Hirschberg: Postmortem. Microphthalmia. Cornea vascular. Iris atrophied and showing a coloboma. Points of ossification of the ciliary body. *No lens*; retina rudimentary.

Haab: Postmortem. Two rudimentary eyeballs in an idiot, aged 27 years. Right eye, *no lens*. No nerve fibers in optic nerve. Left eye, sclera hard.

Cornea rudimentary and opaque. Choroid and retina rudimentary. No iris; no ciliary body; *no lens*.

Falchi: Postmortem. Man, aged 29. Right eye, coloboma of choroid. Left eye, transverse diameter, 14 mm. Cornea degenerated, 8 mm. in diameter. Iris atrophied; no ciliary; *no lens*. Place of lens occupied by vascular conjunctival tissue with points of ossification and fatty degeneration.

Becker: Postmortem. Girl, aged 6 months. Left eye, 6 mm. long; transverse, 9 mm. Cornea opaque and vascular and there is no boundary between it and the sclera. The choroid and retina close the globe anteriorly and allow no pupillary opening. Coloboma of optic nerve and choroid were developed. *No lens*; no capsule; no zonule of Zinn. The author admits that the lens had no been formed.

Valenti: Postmortem. Human male fetus. Single orbit. Globe atrophied. *No lens*; no cornea. Optic nerve present.

Dunn: Clinical report: Woman, aged 39. Left eye, nerve had light perception. Convergent strabismus. Anterior chamber deep. Tremulous iris. Pupil 2 mm. in diameter, and reacts to light and convergence. Iris adherent behind. Lens replaced by a thin transparent membrane. Coloboma of optic nerve. Cylindric formation in vitreous.

Loeser: Clinical report: Boy, aged 8. Convergent strabismus. Nystagmus. Microphthalmus with congenital aphakia. Right eye + 30 D. S. = $\frac{10}{200}$. Left eye + 30 D. S. = $\frac{6}{200}$.

Hanke: Postmortem. Boy, aged 14. Rudimentary globe connected with a dermoid. Transverse diameter, 9 mm. Cornea opaque. Sclera normal. A layer of choroid and pigmentary epithelium cuts off the anterior portion of the globe from the posterior without presenting any pupillary opening. The retina is degenerated and thrown into folds and presents some calcareous deposits. Iris rudimentary. A fatty mass is found in the sclero-corneal angle enclosed in a thick fibrous capsule. A retained hyaloid artery passes to the posterior pole of the capsule. The author admits the complete absence of any ectodermal invagination.

Dean: Postmortem. Boy, aged 17. One eye microphthalmic. The other eye 9 mm. in diameter. No boundary between sclera and cornea. Globe contains myxomatous material and blood vessels. No retina; *no lens*.

RÉSUMÉ

Of the cases collected, 13 are postmortem observations and 7 clinical reports, the former having more decisive value than the latter. Of the postmortem cases, 6 show pathologic processes and 7 aplasia.

Of the clinical reports, 5 show aplasia and 1 only (*Gratiot's*) some pathology, while in 1, that of *Toufescas*, lenses were demonstrated to be present.

In 9 cases there is microphthalmus, 5 unilateral and 4 bilateral. One is a clinical report purporting to be aplastic. There are post-mortem reports on the other 8 which show 5 to have been cases of aplasia and 3 pathologic.

The list of cases is too brief to make it interesting or valuable to calculate percentages of averages. However, there appears to be evidence sufficient to show that cases of aphakia occur both from aplasia and from pathologic intra-uterine conditions.

Argyle Building.

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DISCUSSION

DR. W. E. SHAHAN, St. Louis: Dr. Sherer has presented his case carefully, accurately and fairly. On reviewing the literature on these cases one is struck by two facts: first, the scarcity of such reports and, second, the uncertain accuracy in classification of the cases reported. Dr. Sherer has taken great pains to make the classification of his case as definite as possible. Particularly, he has made conscientious efforts to determine the presence or absence of the images of Purkinje, and failed to find them. In cases previously reported this very important test has been almost universally neglected. He has very properly taken the position that he is uncertain as to whether his case is aphakic because of the uncertainty as to the absolute nonformation of the primitive lens vesicle, or because of some accident or interference with it in its subsequent development. The primitive lens plays such an important rôle in the embryonic formation and development of the eye that it is difficult to conceive anything other than some sort of monstrosity resulting if it is absent during this period. On the other hand, it is very easy to conceive a fairly normal eye which possessed a lens during the embryonic period and lost it through some accident, disease or fault in development or formation of capsule during the relatively long fetal period. However, some authors have recently claimed to have evidence that a fairly normal eye can be developed in the face of absolute nonformation of the primitive lens vesicle. Hence Dr. Sherer's doubts on this point are entirely legitimate.

DR. J. W. SHERER, Kansas City, closing: I just want to refer the gentlemen interested in this subject to the conclusion of the paper. I stated carefully what experimental work has been done on the subject, the biologic evidence in this regard and also a review of the cases hitherto reported. I will mention here that in the case reported by *Toufescas* in the *Annales d'Oculistique* in the original mono-

graph, which I have, it was stated that she at first thought the case to be one of absent lens; however, after Professor Morax, who is head of the clinic in which she worked, concurred in her views, she later took the patient to Professor Tscherning, at the laboratory of the Sorbonne, and had the patient studied with the Purkinje-Sanson test with certain apparatus which he has and he demonstrated the presence of the lens in the eye. Of course the presence of the lens has usually been found at post-mortem, and it might be the case in this patient, that at post-mortem some lens might be found, but if so, probably it is so small and so undeveloped as to be negligible.

PERIPHERAL VASOMOTOR CHANGES IN SHOCK

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Introduction.—The status of the blood pressure in cases of long-continued trauma to the intestines or other abdominal viscera through experiment or in surgical operations has come to be generally considered the most reliable indication of the general circulatory condition of the subject under observation.

Extreme shock and low blood pressure have been observed to occur so often concomitantly that in experiments requiring handling of the abdominal viscera or entailing great sensory disturbance in any way, as in any surgical operation, the gradual fall of the blood pressure is a sharp reminder to the operator that the factors producing shock are at work. Crile¹ aptly says that in many instances the control of blood pressure is the control of life itself. While a low blood pressure in shock is a common observation, the theories as to the cause of the hypostasis are quite divergent and have caused a great deal of discussion among observers. Thus Crile maintains that the low pressure is due to exhaustion and paralysis of the vasomotor center. Malcolm² states that the condition of low pressure is more apparent than real. He sets forth his belief that the low blood pressure encountered in cases of shock does not necessarily mean a failure of the circulatory apparatus, but that the arteries are contracted and the blood pressure in the particular artery is thereby diminished. He says, "the contraction of an artery increases the resistance to the blood flow within it, but diminishes the blood pressure within it."

There are cases, however, where all the common signs of shock are present, but the blood pressure does not fall. Yandell Henderson³ observed that in one of his acapnia and shock

experiments, "the animal was by . . . all signs in a state of shock, yet arterial pressure had not fallen." Meltzer⁴ notes that in dogs where the "viscera had been repeatedly everted and replaced in the abdominal cavity, the animal becoming more and more insensible to any stimulation and deeply apathetic, while the blood pressure never was less than 100 mm. Hg. In other animals the blood pressure dropped within two to three hours from 60 to 50 mm. Hg." Janeway, Ewing, and Jackson⁵ have frequently noted cases of experimental shock in which the blood pressure was maintained for a long time. The general observation, however, seems to be that in cases of shock with high blood pressure, if the sensory disturbance is continued long enough, hypostasis makes its appearance.

Inseparable from the subject of blood pressure in shock is the question of the condition of the peripheral and splanchnic arterial circulation. The three great factors in the maintenance and stabilizing of the blood pressure are (1) the rate and volume of ventricular contraction, (2) the amount of fluid contained in the circulatory system, and (3) the peripheral resistance as represented by the arteries of the peripheral and splanchnic circulations. Concerning the condition in shock of this last factor, much has been said. Many statements have been made by various investigators as to the actual condition of the peripheral vessels after shock has been brought about by intestinal trauma, but, with few exceptions, such changes have not been clearly demonstrated. Some have apparently shown that the vessels in the periphery following long-continued intestinal trauma are dilated, while fully as many maintain that this is not true, but that the whole peripheral system of vessels is contracted.

Chief of those maintaining that the peripheral arteries and arterials are dilated is Crile.¹ He says that shock is an exhaustion or breakdown of the vasomotor centers, this condition causing a relaxation of the arterial walls and a lowering of blood pressure. Chittenden⁶ says, "shock, it is generally conceded, is produced by an inhibition or paralysis of the vasoconstrictor fibers of the sympathetic system." Explaining the phenomenon in different ways, Howell,⁷ Meltzer,⁴ and Mummery⁸ agree with Crile that the peripheral arteries are relaxed.

The contention that the peripheral arteries and arterioles are contracted in shock is upheld by several clinical and experimental observers.

4. Meltzer, S. J.: Arch. Int. Med., 1908, i, 571.

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6. Chittenden, Arthur S.: An Analysis of Shock, New York Med. Jour., September, 1913.

7. Howell, W. H.: Contributions to Medical Research, dedicated to Victor C. Vaughan, 1903.

8. Mummery, J. P. L.: Lancet, London, 1905, i, 696.

1. Crile, G. W.: An Experimental Research into Surgical Shock and Collapse, Coll. Phys., Phila., 1901, xxiii, 59; also, Blood-Pressure in Surgery.

2. Malcolm, John D.: The Condition of the Blood Vessels During Shock, Lancet, London, Aug. 26, 1905.

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Malcolm⁹ denies that shock is caused by relaxation of the blood vessels in the splanchnic area, and says that "a contraction of the arteries generally, and especially of the superficial arteries, occurs during shock." Malcolm draws his conclusions from clinical observations on surgical cases. Seelig and Lyon¹⁰ have set forth the results of some well-conducted experiments which prove that the vessels of the periphery are contracted in shock. By accurate means of measurement they show that in the normal animal the rate of flow before and after division of the sciatic nerve was 7-5, whereas in the shocked animal the rate was 19-11. These two sets of figures demonstrate a proportionately more rapid outflow in the shocked animal, thus proving that in shock the peripheral vessels are more contracted than normally. Green,¹¹ working with Seelig¹⁰ and Lyon, found that in shock the retinal vessels were contracted from one-third to one-half the normal size. Henderson³ makes the following observation on one of his dogs: "During the aeration of the abdominal viscera coma developed, respiration became shallow, the pulse narrow, the femoral artery constricted, and the intestines congested. At the end of one hour the animal was by all of these signs in a state of shock, yet the arterial pressure had not fallen."

Boise¹² accepts Crile's facts, but interprets them differently. He states that the low blood pressure and venous stasis occurring in surgical shock is not necessarily due to paralysis of the blood vessels and exhaustion of the vasomotor center, but are the results of central stimulation and a marked contraction of the heart and arteries. Porter,¹³ by stimulating the depressor nerve in an animal showing all the clinical signs of shock, lowered the blood pressure in that animal 45 per cent., showing that the arteries and arterioles were not dilated to the greatest extent, and that, therefore, the vasomotor center in shock is neither exhausted, depressed nor inhibited.

Regarding the condition of the arteries in beginning shock, Crile says the first result of the sensory stimulation is a heightened activity of the vasoconstrictor center resulting in a pressor effect on the arteries, with a high blood pressure. This effect, he maintains, wears off if the stimuli be continued. Wainwright,¹⁴ in clinical observations on patients suffering from various injuries, says many injured patients pass through this primary pressor period with

high blood pressure, and he considers this the ideal stage for operative repair.

Malcolm,⁹ on the other hand, believes that the arteries remain contracted in any degree of shock. He says, "an injury to a nerve causes a contraction of the arterioles throughout the body. If the irritation is sufficiently severe and persistent the contraction tends to increase and to extend to larger vessels as long as the irritation is in action, or as long as the operation continues."

It is a common observation that in all cases of shock from trauma to the abdominal viscera the large veins in the central parts of the body are congested with blood. This condition, accompanied by a low blood pressure, is often termed a bleeding into the animal's own vessels,¹⁵ and has much the same effect as extreme hemorrhage of the amount of blood over the usual volume found in the splanchnic area. The cause of this central congestion, whether due to hydrostatics, or to other forces, has also aroused some discussion. Crile says, "when the vasomotor center is becoming exhausted, the blood accumulates in the veins, especially in the larger venous trunks." This condition, as Crile describes it, is practically always observed in his laboratory in cases of experimental shock brought on by intestinal trauma.

In reference to this congestion, and bearing on the cause of it, Malcolm⁹ says, "in so far as an unusual amount of blood may be found in the splanchnic area as a result of shock, the excess is forced rather than drawn into the central parts of the body."

The Problem.—This investigation has for its purpose the demonstration of the actual changes in condition of peripheral circulation following severe manipulations of, and trauma to, the intestines, and the bearing of such changes on the blood pressure. It is not the purpose of this study to be concerned about the etiologic factors at work in the production of any of the signs or changes that may be observed, but to record, graphically where possible, some of the actual conditions found after trauma to the intestines, and, if possible, to correlate and harmonize the findings with other proved phenomena. The question of what happens in beginning shock seems to present more opportunities of demonstration than the phenomena prevailing in well-developed, long-continued shock, because of the danger of mechanical and operative complications in the latter.

It is proposed, therefore, to show (1) that there are definite changes in the condition of the blood vessels of the periphery closely following intestinal trauma, the term periphery to mean the whole of the legs, and the body musculature and skin; (2) that these changes

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12. Boise: *Am. Jour. Obstet.*, 1907, iv, 1.

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15. Fischer, H.: *Samuel Klin Vortr.*, 1890, No. 10, p. 119, quoted by Meltzer.

can be shown to account for the high or low blood pressure in cases of shock brought about as above stated.

Methods of Experiment.—The problem lends itself to several methods of solution. It is necessary to establish a uniform method of producing shock, and it is universally recognized that roughly handling exposed intestines, burning large areas of skin, crushing the paw of a dog, and severing or crushing large nerve trunks, etc., will bring about the desired result. Of the above methods it seems to us that trauma to the intestines can be made the most uniform and least liable to complications.

The method of observing the actual changes in the peripheral vessels may be any one, or all three, of the following: (1) To observe the arteries themselves, visually, a method used by Green¹¹ in Seelig and Lyon's experiments; (2) to measure the actual flow of blood through or out of an artery before and after shock, a method used by Seelig and Lyon with success; (3) to measure the actual change in volume of part of the periphery, thus showing what is taking place in the peripheral circulation. This method can be made simple and reliable and does not require extensive operation. It also has the added advantage of being graphically demonstrable. This is the method we have selected, and a description of technic will follow.

Description and Explanation of Experiments.—Dogs weighing from 6 kg. to 12 kg. were used. The anesthetic in each case was ether, administered by continuous intratracheal insufflation under a pressure of 15 to 18 mm. Hg.

Each dog one-half hour before etherization had 2.5 mg. per kg. weight of morphin sulphate hypodermically, and a subcutaneous injection of a physiological dose of curare in acidulated normal saline to prevent inadvertent leg movement.

One of the carotids was exposed and cannulated to connect with a mercury manometer blood pressure apparatus. One of the hind legs of the dog was then carefully shaved up to a level one or two inches above the knee and the leg up to the knee was placed in a glass plethysmograph. This consisted of a large glass cylinder covered at one end with a rubber dam having a circular opening in the center through which the leg was pulled. The other closed end of this cylinder was connected by a rubber tube to a water manometer. The whole system was then filled with water of the same temperature as the air in the room, the water being put in through a vent in the top of the cylinder. After all air bubbles had been expelled a rubber cork, through which a centigrade thermometer was thrust, was placed in the vent to close the system.

The rider or float of the distal arm of the water manometer was a bulb of thinly blown glass, with a staff and marker of thinly drawn-out glass tubing. Every change in volume of the leg resulted in a rise or fall of the float and marker.

After establishing base lines and time markers the abdomen was carefully opened along the linea alba and the intestines pulled out. This organ was then handled until a condition of shock was brought about in the animal.

During the actual handling the blood pressure and leg volume manometers were marking on the smoked paper of a slowly moving kymographion, so that at the end of the experiment an accurate record of the blood pressure and leg volume changes was to be seen. At the end of the experiment the water manometer was calibrated by injecting through the rubber tube into the water system a known amount of water.

When the leg plethysmograph and water manometer was first used the water surrounding the enclosed leg was of the same temperature as the skin of the dog. The results of the experiments under these conditions were so varied and uncertain that side experiments with the plethysmograph were performed.

The system was filled with water at 37 C. and the water left to cool. The water manometer was so delicate in its response that the decreasing volume of water due to the gradual loss of heat was accurately measured by the manometer in cubic centimeters. In all subsequent experiments the water used was at room temperature.

In order to further test out the reliability of this method, adrenalin and nitrite experiments were performed on normal dogs. It was found that the rise and fall in the volume of the leg was not directly proportional to the rise and fall of the blood pressure. When the nitrites were used the fall in blood pressure was not marked with a corresponding fall in volume of the leg, but there was a maintenance of leg volume with sometimes a slight increase in volume due to the vasodilatation. The sharp rise in blood pressure after the use of adrenalin was not accompanied by any rise in leg volume. Therefore the efficiency of the plethysmograph was proved.

The accompanying chart shows at a glance the change in blood pressure before and after shock. The length of time after the beginning of the experiment before a change of leg volume was noted is also shown, and the character of that change. The total volume and character of leg volume change in cubic centimeters is also shown.

Discussion of Experiments.—In every experiment except two the water manometer

Date of Experiment	Length of Experiment, Min.	Time Elapsing Before Change is Seen, Min.	Character of Volume Change	Transitory Changes in Leg Volume	Fall of Leg Volume at End of Experiment in c.c.	Blood Pressure m.m. Hg		Remarks
						Beginning	End	
Jan. 31, '13..	52	10	Fall of 1.5 c.c. followed by rise to normal in 16 minutes	Alternate rise and fall	3	87	70	
Dec. 4, '13...	45	Immediately	Fall of 1 c.c. out recovery	None	2	110	115	
Nov. 21, '13..	165	Immediately	Fall of 5 c.c.; recovery to 1 c.c.; increase in 4 minutes; fall thereafter	None	5	133	131	
Dec. 23, '13..	120	40	Fall	None	10	106	105	
Jan. 13, '14..	50	5 (slight fall), 10 (normal), 15 (slight rise)	No change	None	No change	91	65	
March 18, '14	51	3	Slight fall	None	9	115	135	
Jan. 9, '14...	92	Immediately	Fall	None	5 c.c. fall in 31 minutes; 10 c.c. fall to death	107	118 in 31 min.	From time of 5 c.c. fall to within 24 minutes of death the volume increased or recovered and blood pressure went down; last few minutes before death showed rapid fall

registered a change in leg volume immediately or within a few minutes after the handling of the intestines had begun. In most instances the manipulations of the intestine resulted immediately in slight fall of volume with a fall in blood pressure which was followed in some cases in a few minutes by partial or complete recovery of leg volume to normal. There seemed to be at the beginning of the experiment a period of unstableness of the vasomotor mechanism in the leg, the arteries being alternately contracted and dilated, without much disturbance in blood pressure.

These variations in leg volume in most cases passed away in a few minutes, and the volume tracing from then on showed a gradual fall to the end of the experiment. In one experiment (January 31) the handling of the intestines immediately brought about a slight fall in the volume of the leg with at first a fall then a rise in blood pressure. When the handling ceased for two minutes the leg volume went up, the blood pressure remaining about normal. When the manipulation was taken up again there was a fall of volume. These transitory changes in leg volume and blood pressure went on through the whole experiment (52 minutes), the general trend of the volume being downward, so that at the end of the experiment there was a permanent fall of 5 c.c.

In all cases but one there was a fall of leg volume of from 2 c.c. to 10 c.c.

In all cases but two the blood pressure was maintained throughout the experiment, or at the end was higher than at the beginning.

In the experiment of January 13, where, up to the end of the experiment there had been no change in the vasomotor condition of the leg arteries as shown by the leg plethysmograph, the blood pressure was 91 mm. Hg at the beginning and had dropped to 65 mm. Hg at the end.

In the experiment of January 31, when the vasoconstriction in the leg resulted in a 3 c.c. fall, the blood pressure was 17 mm. Hg lower at the end of the experiment than at the beginning.

In the experiment of December 4, when a 2 c.c. fall in leg volume was noted, the blood pressure rose from 110 mm. Hg at the beginning to 115 mm. Hg at the end of the experiment.

In the two, November 21 and December 13, the fall of volume was 5 c.c. and 10 c.c. respectively, and the blood pressure was exactly maintained throughout the experiments. The time of intestinal handling in the latter experiment was two hours with forty minutes elapsing before any change in volume was noted.

In the experiment of March 18 there was a fall in leg volume of 9 c.c. and a gain in blood pressure of 20 mm. Hg.

In the experiment of January 9, which lasted one hour and thirty-two minutes, the leg volume at the expiration of thirty-one minutes had decreased 5 c.c. and the blood pressure had risen from 107 mm. Hg to 118 mm. Hg. There was a gradual loss of vasomotor tone in the leg vessels from then on, the leg increasing in volume, the blood pressure showing a steady fall. Within a few minutes of death there was a rapid fall of leg volume, the total decrease at death being 10 c.c.

Discussion.—Trauma to the exposed intestines brings about a certain vasomotor response in the blood vessels of the periphery, and this response is a reflex vasoconstriction. This change in the peripheral vessels begins almost immediately the intestines are disturbed and continues as long as the stimulation is applied.

This vasoconstriction in the peripheral vessels is an important factor in maintaining the blood pressure in cases of gradually developing shock from intestinal trauma, thus overcoming the blood pressure-lowering effect of the splanchnic dilatation. Whenever the intestinal irritation is not accompanied by vasoconstriction of the peripheral vessels, the blood pressure tends to fall. Whenever the vasoconstriction is present but slightly, the blood pressure shows itself to be better maintained. When the vasomotor centers can bring about a marked vasoconstriction, the tendency toward the maintenance of the general blood pressure is greater, and in some cases there is actual raising of blood pressure.

Since there is no reason to suppose that the vasoconstriction center is the variable factor in the difference of vasoconstrictor effect which was obtained, it is reasonable to assume that the results are to be explained by the variation of the normal degree of vasoconstriction present in the periphery at the inception of the experiment. If the vessels were dilated, then reflex constriction could occur to a great extent and aid in the retention of normal blood pressure. On the other hand, if the peripheral vessels were well constricted, further constriction from trauma would be impossible and the compensatory effect being absent, the blood pressure would fall.

In other words, the effect of intestinal trauma on blood pressure is determined by the relative degree of constriction or dilatation which exists in the periphery at the inception of the procedure.

Summary.—1. In every experiment except two there was an immediate change in leg volume.

2. At the beginning of each experiment there was a period of unstableness of the vasomotor mechanism in the leg without much disturbance in blood pressure.

3. These variations in most cases pass away in a few minutes.

4. In all cases but one there was a fall of leg volume of from 2 c.c. to 10 c.c.

5. In all cases but two the blood pressure was maintained throughout the experiment, or at the end was higher than at the beginning.

SOME TYPES OF MYOCARDIAL DISEASE *

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While much has been said and written of pathologic heart conditions, one much interested in heart work cannot fail to be impressed with the persistent oversight of such abnormalities. Statistics show that the percentage of heart diseases is increasing and the question arises whether this is due to keener recognition of heart troubles or an actual increase of cardiac involvement. However, a close insight into the causative factors of cardiopathic states, especially mural changes, makes it seem quite likely that the stress and high pressure of modern life are at least not a negligible factor. Yet to offset this it must be remembered that the better control of infectious diseases has tended to limit cases of such causation. Postmortem findings also show a marked percentage of error in cardiac diagnosis, particularly in the sense of oversight of existing errors. Endocarditis and pericarditis are frequently overlooked. Myocardial changes preponderate over the others, but when we consider that such myocardial changes merge insidiously from a normal state into the most profound tissue changes it is easily conceivable that certain stages of such changes may pass unnoted, in fact are clinically unrecognizable.

Briefly, it is to be remembered that the myocardium consists of a parenchyma, that is, muscle fibers, a specialized tissue, and an interstitial connective tissue containing among other things the nutrient blood vessels, nerve trunks, and filaments. Both the parenchyma and the interstitial tissue are susceptible to disease, the parenchyma especially so, perhaps equally with hepatic, renal, splenic and other specialized structures. Whether clinically recognizable or not is another matter.

Pathology has demonstrated gross or microscopic changes in many conditions in which clinically cardiac manifestations are unnoted at times, as in acute rheumatism, syphilis, typhoid fever, pneumonia, etc. Even so, we sometimes reluctantly accept a history of previous typhoid, pertussis, etc., as a satisfactory explanation of an existing myocardial weakness manifesting itself afterward.

* Read before the St. Louis Medical Society, April 14, 1915.

The parenchyma is in almost constant activity, therefore its nutritive requirements are great. Nutrition and oxygen must be brought to its cells in proper quantity and state and free from toxic content. How often is this ideal condition present? Changes are to be expected in conjunction with general bodily disease and more especially to the heart or some portion of it, if there is coronary artery disease alone, so that etiologic factors of myocardial disease may be divided into two groups: (a) those which by affecting cardiac-nutrition, either by general anemia or local ischemia, cause various trophic disturbances, such as granular, hyaline, and fatty degeneration, or possibly only a simple atrophy; (b) those wherein toxic substances cause protoplasmic changes either in the parenchyma or interstitial tissues.

In the first group may be placed malignant disease, tuberculosis, syphilis, or any disease causing prolonged general anemia, likewise such conditions as affect the coronary circulation—coronary stenosis, imperfect compensation in cardiovalvular disease, and pulmonary disease, such as emphysema, where oxygenation is deficient.

In the second group come various poisons, metallic and organic, which again include syphilis. Obesity causes a fatty infiltration, perhaps not quite so destructive in character as the toxic or fatty degenerations.

Renaut describes a segmentary myocarditis in the extreme states of degeneration, following a myomalacia cordis, in which there is an actual dissociation of the muscle cells, which Recklinghausen attributes to a perverted mode of contraction (fibrillation?) following degenerations.

Degenerative changes may be of the most extreme types, as shown by the so-called myomalacia cordis which at times results from a localized ischemia due to arterial disease. These areas occurring chiefly near the apex of the left ventricle may consist of soft, friable seminecrotic areas, often hemorrhagic owing to infarction, and may lead even to an aneurysm or rupture of the ventricle; but the areas may be replaced by fibrous connective tissue, which leads to a sclerosis and may be minute or large.

There is also an indurative myocarditis which is consequent to specific infections and intoxications, such as diphtheria, smallpox and pneumonia. This is due to destruction by various types of degeneration of the muscle cells directly by the toxins or by changes in the nutrient vessel walls, each leading to inflammatory infiltration. The degenerated parenchyma is replaced by connective tissue, and as the process may be a general one, it may lead to a widespread cardiosclerosis. Again, a heart whose endocardium only is apparently affected is most likely to suffer a damaged muscle, as the same factors causing changes in the valves

have been found to cause scattered degenerative areas in the muscular and subserous coats.

Albutt brings out the opinion that arteriosclerosis should not be looked upon as causing heart diseases, since it is but a manifestation or result of some other factor. Anything which through the blood stream acts detrimentally on the intima of blood vessels may cause a widespread or localized arteriosclerosis, the brunt of such trouble falling upon one or more organs, but in some cases especially the heart. The effect of sedentary habits with overindulgence in food and stimulants on the splanchnic vessels and secondary general arteriosclerosis is clinically a frequently noted condition, although recently disputed in an experimental study.

Russell and others have shown a hypertrophy of the media of arterioles, evidently compensatory, due to increased head-on pressure, which, however, indicates greater contractility, hence increased blood pressure.

I may be pardoned for speaking more specifically of syphilis, as of late years an impetus has been given to the study of this infection in relation to the heart muscle. Gummata of the heart wall are comparatively rare, twenty-six cases being reported by Bergman up to 1904; but this is of lesser importance than those disseminated myocardial changes which have more recently been shown to be of syphilitic origin. That syphilis has caused myocardial changes has been supposed for a long time, and in some cases almost proven, but more or less recent work, with the discovery of the *Spirochaeta pallida* and the Wassermann reaction, has tended to clear up a certain doubt that such is the nature of many cases. Aortitis and changes in the thoracic vessels have been shown to be largely syphilitic in origin, but here mural syphilis is especially of interest. Warthin has been especially interested in this field and his work has shown somewhat startling results. He found both parenchymatous and interstitial changes varying from the presence of large colonies of spirochetes in the parenchyma without recognizable tissue changes through simple atrophy, various degrees of "pale degeneration," fatty degeneration, even necrosis, all with the presence of spirochetes. Besides these, the interstitial changes are of interest. These may, and most frequently do, coexist with the parenchymatous changes. He noted a peculiar edema with a mucin-like exudation and extravasation of fibroblasts, large, pale epithelioid cells, pale, staining mononuclear white and plasma cells and lymphocytes. In these conditions the spirochetes were found near the capillary walls. Also he finds other types, evidently in conditions of longer standing where there is interstitial proliferation, perhaps primarily due to vascular and perivascular changes, as he finds irritative symptoms in the endothelium of the vessels.

New capillaries appear but are early obliterated. Spirochetes are found in great numbers. These areas later become fibroid, but gummata and caseation were not found. Thirdly, myxoma-like areas are found, especially in congenital types. It is further stated that he found cardiac localization of spirochetes more common than hepatic and they were found there and not elsewhere. Clinically this should cause no surprise, as response of decompensated hearts to antisyphilitic treatment, where direct cardiac treatment has failed, has, I am sure, been noted by everyone.

As to the diagnosis of myocardial degenerations, the condition is so apparent in many cases that on them no comment is necessary. Other cases in which even serious changes have occurred may offer the greatest difficulty in establishing an absolute diagnosis. It is especially in people under 40 where these conditions are overlooked.

The history intimately gone into, with the possibility of myocarditis especially in view, as to previous infections, typhoid, diphtheria, influenza, pneumonia, acute rheumatic fever, scarlatina, syphilis, gonorrhea, malaria, chronic cholecystitis, appendicitis, pelvic disorders in women, especially fibroids, exophthalmic goiter, chronic plumbism, alcohol and tobacco, overeating, excessive mental strain with its very suggestive effect on adrenal secretions. In all these cases it is well to remember that the heart may not have escaped unscathed. In a general way, it is well to remember one fact, that any one symptom which indicates that the heart has lost its reserve force should receive its full attention in the further conduct of the case.

Such signs are not alone a marked dyspnea, but one brought on by what should be considered slight exertion. The presence of persistently increased blood pressure should mean at once that the heart is working at odds. If the pressure is low, with a state of decompensation, the condition is very likely too apparent to need comment. Of special value, I believe, is a loss of cardiac stability, which may be manifested in many ways. Failure of the heart to sustain the blood pressure, after a certain degree of exertion, at the point where it was before exertion or even slightly above it evidently indicates mural weakness. In other words, a heart showing an inability to respond with blood pressure equal to or above that shown before exertion is most likely deficient in reserve force.

Likewise Schapiro's test is of value. The normal recumbent pulse is from seven to fifteen beats per minute less than the erect pulse, but this difference is less marked in myocardial disease, that is, the pulse rate remains about as high in recumbent as in erect position of body. A persistently rapid pulse, without a readily assignable cause, should arouse suspicion.

Evidence of arterial thickening are associations of myocardial changes too well known to need more than mention, but they should be looked for in all vessels, not alone one radial artery.

A feeling of tightness or drawing in the chest on exertion or in sudden changes of temperature of various so-called symptomatic paresthesias, precordial and in the shoulders, or the bracelet phenomena, are strongly suggestive of mural disease, while anginal pains are almost diagnostic. It is to be remembered, however, that these may be absent even in grave cases. As to physical signs, the size of the heart and the position and character of the apex beat are of great importance. Time spent in closest possible study to determine these often will be repaid. The fluoroscope is, of course, extremely useful to determine the cardiac outline, although it is well to remember that a pure myocardial disease often does not give an enlargement beyond the nipple line. Emphysematous lungs are apt to mask the true cardiac dullness. In listening to the heart sounds, the short, somewhat higher pitched, flapping sound tells a definite story, and the systolic bruit over the aortic area is always suggestive of aortic disease in which the coronaries are very likely to share.

Arrhythmias may mean much or little in this respect, but the pulsus alternans is perhaps always indicative of an exhausted reserve force. Futile systoles are evidently indications of cardiac weakness. Auricular fibrillation, likewise auriculoventricular dissociation, which is so constantly caused by grave injuries to the auriculoventricular bundle that it is safe to believe the myocardium shares such changes. In many cases of a deficient myocardium there can be noted a peculiar pallor, not hemic or renal in origin, which improves with the cardiac betterment and which must be a vasomotor phenomenon.

The importance of early recognition of these cases is manifest, but in general practice I am afraid all too frequently is lost sight of. Many early unexpected deaths could be averted if more attention were given to finding primary evidences of circulatory deficiency.

Humboldt Building.

DISCUSSION

DR. W. P. ELMER: In the last two years, especially in clinic and City Hospital cases, I have been impressed with the increasing frequency of syphilitic cardiomural disease. Patients come in complaining of vague precordial distress, give no history of previous disease that would be of value in making a diagnosis and, all too frequently, no history of syphilis. With the discovery of the Wassermann many of these cases are cleared, and in my work at the City Hospital, especially where I have been in touch with individuals who were not too squeamish about giving histories, particularly among the colored people, I very frequently get clear histories of syphilis with cardiac disease, yet no Wassermann. In the last three or

four months I have had ten or eleven cases in which the Wassermann was negative. Some of these cases gave no history of clearly defined syphilis, but responded very well to antisyphilitic treatment. Three cases in private practice have done the same thing. So the history and even the Wassermann reaction is not sufficient to exclude myocardial disease due to syphilis. I am by no means firmly convinced that a large percentage of the human race is affected with syphilis, but certainly we are finding more and more cases of myocardial disease of syphilitic origin, and the proof of this, I think, can be demonstrated at almost any time in a clinic where a patient can be at all well controlled, by giving these patients antisyphilitic treatment. Many of the cases do not respond to antisyphilitic treatment without cardiac stimulants, but very many of them do not respond to cardiac stimulants without antisyphilitic treatment.

I have in mind a colored woman at the hospital who is about 27 or 28. She comes into the hospital regularly every three or four months with frightful cardiac incompenation, legs edematous, fluid in one or both chests, heart irregular, and all the classic symptoms. The first two or three times she appeared for treatment, cardiac stimulants were used with rather indifferent results; the rest seemed to do as much good as the cardiac stimulants. About this time I was impressed with the idea that the case might be syphilitic and put her on rather vigorous antisyphilitic treatment and stopped cardiac stimulants. In less than ten days edema disappeared and the patient refused to stay longer in the hospital because she felt so well. In a few months she came back in about the same condition; cardiac stimulants were ignored, she was put on antisyphilitic treatment and the symptoms began to subside in ten days or two weeks, and that has been repeated a number of times. Why this patient has not been permanently relieved can be explained in two ways. In the first place, the myocardium is so impaired that any strain is likely to overpower it. In the second place, the patient has refused to stay for a longer period of time than is necessary to enable her to get about.

The method we follow in handling these cases varies with different individuals. Injections of succinimid or salicylate of mercury have given fairly good results, the salicylate rather better than any other salt of mercury, in the colored ward especially. I have resorted to the use of ordinary mercurial ointments in rather large doses for a period of about ten days. This seems to give fully as good results as any other antisyphilitic treatment that can be followed.

DR. FRANK GLASGOW: At a joint meeting of the Surgical Society and the Internists Society about a year ago I brought out the effect of saline solutions on the intima of the blood vessels when I said that perhaps intense saline concentration of the blood was the cause of a good deal of arteriosclerosis, of kidney trouble and possibly of trouble with the endocardium, and I mentioned a case of mucous colitis. I have been suspecting that some of these cases were due to ameba and I thought I would try an experiment. I have read that a weak solution (2 per cent.) of bicarbonate of soda would destroy the ameba, so I used this solution twice a day. The dysentery got better, but in a few days the patient complained of feeling weak and dizzy even when lying down. Her pulse was intermitting every third beat and was very soft and compressible; it was 110 with the sphygmomanometer. There was no reason that I could think of for this occurring unless possibly it was the effect of the bicarbonate of soda. I had never heard of any one giving solution in that way, it was simply an experiment, and here was an alarming condition which took two weeks or more for her to get over.

I cannot explain it in any way except the use of the bicarbonate of soda.

I have had a little experience in my own case. I was bothered by heartburn and I had been taking a good deal of bicarbonate of soda this winter. I had to lie on my back for four or five days simply on account of cardiac weakness. I thought at the time that it came from an attack of grippe a month and a half before, but since I have had this case I have thought that the bicarbonate of soda might have had something to do with it. We know that soda and potassium salts are poisonous to the heart. Bunge has made experiments with these salines and found them decidedly poisonous beyond a certain concentration, which I think is 0.2 per cent. It is well for us to bear such things in mind.

Some men have made experiments with tartrate of potash and soda (Rochelle salts) and found it distinctly poisonous to the kidneys. I have no doubt that some fruits containing tartrates often have an irritating effect on the kidneys and the bladder.

DR. M. VAN RAALTE: I would like to ask Dr. Fahlen if he has encountered a slow pulse in myocardial disease and if he has any explanation for it.

DR. FAHLEN (closing): I would like to repeat, or rather confirm what Dr. Elmer said about syphilitic lesions. I have always been rather careful not to develop syphilophobia, but the more opportunity I have for observation of heart cases the more I am impressed with the fact that syphilis is a great factor in those types of cases in which there is a pure myocardial change. Of course the aortic lesions are notoriously syphilitic, but where you get distinct evidence of myocardial change, particularly in patients under 40 years of age, and especially with no renal deficiency to account for the breaking down of the heart muscle, syphilis should be constantly borne in mind. I have no definite figures to bring forth, but I venture to say that 80 per cent. of all my patients at the City Hospital who show the pure mural disease show the Wassermann reaction and respond very well to syphilitic treatment.

One thing of great interest is that the myocardial cases that are of the syphilitic type very rarely respond alone to cardiac stimulants. I have noted this especially in the cases in the City Hospital. We have put them on cardiac stimulants alone for a week or ten days without much result; then have begun the antisyphilitic treatment and in almost a miraculously short time see the irregularity of the pulse diminish and a better state of compensation acquired and from that time they have picked up. A patient who came in almost in extremis, was pulseless and could make nothing of his heart condition, had delirium cordis, which made it absolutely impossible to find what lesion he had. He was stimulated with the usual cardiac stimulants and for days was in a very serious condition. He was put on digitalis and finally began to develop a more or less better state of compensation, but the irregularity in the pulse and the dyspnea did not entirely clear up. We found a very large, irregular liver, congested and showing evidence of a possible malignancy or gumma. That, with the heart condition, led us to have the Wassermann made, which was negative. In spite of this report we put him on mercurial inunctions. He improved so definitely that we decided to go on with the mercurial treatment; so we gave injections of bichlorid of mercury every day. He now has a perfectly regular pulse of about 80, walks around the ward in absolute comfort and has no evidence now of the irregularity or the extreme swelling in his liver, which is now barely palpable under the ribs.

It is surprising that these cases will yield to almost anything in a mercurial way, some even to the unreliable mercury by mouth. I agree with what Dr. Elmer says in regard to the inunction. I think it is

an extremely satisfactory way of treating these cases and they seem to respond much more quickly than in syphilis of other organs.

As to Dr. Van Raalte's question of the slow pulse. The pulse physiologically gets slower as the age of a person increases, so that in old people we naturally expect a slower pulse, but there are some cases of bradycardia that are a little hard to explain. It may be that it is a vagus influence due to sclerotic changes in the aorta and compensatory to high pressure. Of course, where you get a high pressure the vagus reflex comes in causing an inhibitory impulse to the heart, also a vasodilatation. Possibly decreased conductivity or stimulability explains other cases.

REVIEWING THE SUBJECT OF BONE REGENERATION

INLAYING AUTOPLASTIC BONE SPLINTING FOR UNUNITED FRACTURE OF LONG BONES AND AUTOGENESIS BONE SPLINTING IN CASE OF FRESH COMPOUND COMMINUTED FRACTURE OF LOWER END OF TIBIA AND FIBULA *

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While we accept bone transplantation today as a meritorious procedure in surgery, the respective values of the bone and periosteal contribution to a successful transplant continue to stimulate experimental research with varying results and conclusions. From out the chaos of widely diverging conclusion a final opinion most grossly interests the surgeon who elects one element chiefly as his sheet anchor for a bone regeneration.

We might superficially refer to the results of valued research made generally familiar by abundant literature. For instance the placing of the entire responsibility of bone regeneration to the function of the periosteum, as demonstrated by Ollier, Axhausen, McWilliams and others; while Macewen contends that such bone regeneration by periosteum alone depends upon the osteoblasts which cling to the periosteum on its removal from the bone, the only true function of the periosteum he claims to be that of a limiting membrane. If such be the case, how abundant must have been the osteoblasts left clinging to the periosteal channels in repeated demonstrations in the osteomyelitis cases of Nichols; here entire shafts of bone were regenerated within the periosteal column from which the entire bone had been subperiosteally resected.

Cohn, in the *American Journal of Surgery* of last November, reported a series of experiments showing maintenance of life of bone denuded of periosteum after being buried in tissue for 5 to 7 weeks, while periosteum alone treated in

like manner disappeared, thus virtually verifying the conclusion of Macewen. Wetherill, in a late report on a case previously presented, shows successful transplant without periosteum six months after operation. This was in a portion of tibia; the graft was spliced sidewise to the distal fragment, which union he considered better than union of the upper end, which was inserted into this excavated medullary canal.

The theories of bone regeneration are represented by two extreme classes—those who believe that the transplant is retained without essential change, being itself an actual center of growth and retaining its inherent power of growth undisturbed, and those who believe that new-formed bone replaces the graft which acts merely as a scaffold with no reparative power within itself. Cotton and Loder of Harvard have expressed doubt of either view being a correct statement of facts, their conclusions being based on a series of experimental specimens



Fig. 1.—Showing extensive destruction of lower tibia, multiple spiral fractures of the proximal fragment, with malposition of fragments and transverse fracture of fibula.

of free transplants of portion of bone within joints. Their experimental procedures consisted of an interchange of a portion of the femoral condyle of cats and rabbits, and conclusion from their review of histological preparations thus obtained. They cite the following essential points: (1) the early disappearance of the bone corpuscles from the trabeculae of the transplant and from the trabeculae of the host bone for a short distance; (2) a rapid covering of graft by a layer of new endosteal bone which unites with new endosteal bone of the host bone; (3) new bone is laid down by the activity of endosteoblasts in all portions of the grafts; (4) practically no change in the transplanted cartilage, at least up to four weeks.

Murphy presents the graft as a scaffold only, with no osteogenetic properties, but purely osteoconductive. It is asserted, however, that no transplants made by Murphy were freed of periosteum. In an extensive article Groves concludes from his experimental study, that the

* Read before Jackson County Medical Society, June, 1915.

periosteum has no osteogenetic function. He, like Macewen, however, considers that the periosteum consists only of a fibrous layer. While several writers during the last year have clearly called attention to possible confusion of what constitutes the periosteum anatomically, Hass in a recent most excellent article demonstrates through experimental procedures the osteogenetic function of the periosteum, and describes the periosteum as follows: "Examination of stripped periosteum shows an outer fibrous layer



Fig. 2.—Showing destructive gap in tibia, but not showing extensive damage to proximal fragment.

and a fibro-elastic layer of plate-like nuclei. On the inner side of this fibro-elastic layer are groups of cells with vesicular oval nuclei and others with pyknotic round nuclei; but never any cortical bone cells to be found."

When we consider the extensive amount of experimental bone and periosteum planting and cultivating that has been accomplished with results so varying, it does seem to the writer such a situation can only arise from mistaken accuracy as to just what the periosteum consists of and just what was planted in the given case. It is certainly quite evident that if the fibrous layer of the periosteum alone be planted into muscular tissue no bone production will occur, as it is not osteogenetic; on the other hand, if transplanted periosteum, removed by deep cleavage and with sharp instrument, demonstrates function of bone regeneration, such procedure does not prove the periosteum alone responsible.

In considering the life of transplanted tissue we must bear in mind that the essential element for tissue life in general is vascularization; without this, tissue must die. The vascular supply to the compact bone is chiefly from the periosteum. The nutrient artery supplies chiefly the bone marrow, and the anastomosis of these two vascular distributions are not abundant. The importance of a sufficiently maintained blood supply to a transplant is most evi-

dent, since the compact bone beneath greatly depends upon the vascularity of the periosteum over it. Hence taking all factors into consideration, we must agree with Ochsner in reference to a long bone transplant that, first, such transplants are dependent upon the bone itself as a mechanical support; and second that the physiological element of regeneration is conveyed by the periosteum, endosteum and osteoblasts.

To the writer it seems reasonable to conclude that a bone transplant in its entirety, with periosteum undisturbed, contains elements of bone regeneration; whether the osteoblasts abide chiefly in the bone or on its cortex surface, or whether in the spaces of the inner layer of the periosteum the value of each element of such transplant is unquestioned from the standpoint of regeneration, as demonstrated through experimental research and clinical results. Of extreme importance, however, is the prompt establishment and maintenance of adequate circulation to the graft.

What is the fate of the transplant? Does it become absorbed in part or entirety or does it continue to live? In this reference I may quote the following from a recent article by Wehner: "The process by which the necrotic bone of the transplant is replaced by living bone consists not only in the usual sequence of lacunar absorption and subsequent bone apposition, but in a 'creeping replacement.' In this process the young bone cells before they have assumed the adult form and before the bone has become lamellar in structure, show evidences of direct cell division and power to absorb necrotic bone



Fig. 3.—Showing inlaid grafts spanning gap, chiefly held in position by windings of No. 2 chromic gut. Upper end the bundle of small fragments reinforced by wire loops.

and form new bone. The living osseous tissue advances into the old by the intercellular deposit of bone, also probably by a direct advance of the young bone cells in the old lacunae."

In approaching the subject of open treatment of fracture we do not assume to recommend the same as a routine procedure, but rather to recognize a legitimate field indicating within its scope the propriety for such surgical procedures. While many cases produce equally good results through proper treatment by closed methods, there are many cases of ununited

fractures, and simple comminuted and compound variety of fracture, associated with much displacement, presenting difficulties in holding fragments in apposition, which justly indicate the advice of open operation.

In the earlier work of bone splinting delayed union or non-union as complications were not infrequent. Magruder and others have viewed this from the standpoint of trauma. Unquestionably we must admit that with the greatest dexterity the opening and manipulation of tis-



Fig. 4.—Wire loop removed with loosening of one short anterior fragment.

sue to the adjustment and fixation of the fracture is not without trauma, naturally more evidenced in the larger bone imbedded in deeper tissue. In addition we would expect an increased insult to the tissue when foreign material is employed, as metallic splints, not only from present added trauma but increased danger of infection, pressure necrosis, etc. While Lane holds that steel plates hasten consolidation, others claim just the contrary. Removal of such plates on account of suppuration is an unnecessary complication according to Lane and denotes error in asepsis and technic. It has been, however, a common occurrence in the general surgical field. Thomas (*Surgery, Gynecology and Obstetrics*, May, 1914) in reviewing 450 cases in Cook County Hospital, claims where Lane splints were used 48 per cent. had to be removed on account of suppuration or other causes. Naturally then, efforts in this field have been toward reduction of trauma, improved aseptic technic and avoidance of using non-absorbable material.

The now recognized use of bone transplant was developed through various ways and procedures. In cases of fracture of long bones the virtue of using the transplant taken from the tibia of the sound limb and used as an intermedullary insertion has rapidly accepted modification, and today we must consider the virtue of the technic which takes the transplant from the fractured fragments itself and fixes through inlaying, in preference to intermedullary insertion. While virtually new, much has been done on this latest technic. Turk makes a sliding

bone graft from one segment of the fractured bone imbedding the same in a prepared channel and forces the other end of the transplant into the rimmed out medullary canal of the other segment. In 1912 Buchanan in a similar way made use of a bone inlay from the upper fragment in a case of persistent non-union following the use and failure of Lane splint.

To Albee most probably we are indebted for the largest clinical evidence and mechanical genius, demonstrated in his so-called bone inlaying for not only non-union, but fresh fracture. His work clearly defines the powers of securing union in cases of non-union when separation or loss of bone exists, also angulation of fragments can be corrected. According to Albee "graft inlayed in the fragments stimulate osteogenetic function not only to the recipient fragments, but to the graft itself, thus doubly assuring bone callus.

In considering this mode of bone splinting over the method of taking the transplant from the opposite limb the advantage of limiting the procedure to one operative field is evident, from the standpoint of time consumed, ease of technic, and reduced exposure to infection. The applied transplant has all the advantage of a medullary insert, while it maintains in addition its proper anatomical position in the bone tissue, thus making periosteal union and blending more accessible. The use of bone plugs to hold the transplant snugly imbedded in the groove, as done by Albee, or the use of absorbable material for the same, does away with many disadvantages resulting through use of non-absorbable material.



Fig. 5.—Showing good union upon which patient has been carrying his weight for four weeks; virtually no shortening and good ankle function.

The following case report represents a fracture of the tibia and fibula, middle third left leg, male, aged 45:

Radiograph taken after reduction and application of cast showed fair apposition; seven weeks later was returned to hospital with non-union. Specific treatment had been pressed in this case from the time of injury, owing to an unquestioned history of syphilis covering a period of a few years past. Radiograph October 16 showed wide displacement. It occurred to me, considering the history, that an autogenous bone inlay, with non-absorbable material would be a justifiable procedure. The operation was performed

October 16; tibia fracture exposed through anterior incision; ends cleared and brought in apposition. From the upper portion on the anterior surface we chiseled longitudinally a piece of bone two inches long and half an inch wide wedged obliquely down to the medulla, the periosteum being carefully maintained. After removing in like manner a piece of similar dimension only half as long from the distal fragment and in line with graft above, the graft was worked down the gutter thus formed for half its length; this fitted snugly and maintained good apposition; short segment from below was fitted in space above when graft was worked down. Repeated strands of No. 2 forty-day chromic gut were wound tightly around both ends and tied, having been put in position in spiral loops before transplant was placed; tissues snugly sutured over bone and wound closed; convalescence normal. Radiograph ten days after operation showed transplant and fracture in position. About three weeks after operation the apposition was good, but graft could not be identified; area of rarefaction along site of graft; repeated radiographs demonstrated callus formation with slight deviation in position.

In this case I believe that osteogenesis to the fractured ends was stimulated by graft, the graft integrity gradually supplanted by new-formed bone. The patient was walking in cast ten weeks following operation with the limb apparently solid.

Case of compound comminuted fracture of lower end of tibia and fibula:

Mr. W. entered St. Joseph Hospital night of Oct. 30, 1914, with the following history: age 21, robust man, while indulging in a personal altercation with an acquaintance received a bullet wound in right leg, bullet entering on lateral aspect of leg about two inches above the malleolus, passing through the fibula and tibia. On examination extensive bone destruction was evident; hemorrhage moderate. At the exit a piece of tibia about an inch and a half long and three-fourths of an inch wide was hanging by a few shreds in the opening, which was somewhat larger. Emergency attention consisted of removal of this bone, antiseptic dressing and temporary splinting. Radiograph made the next morning demonstrated the following condition: simple fracture of fibula; compound comminuted fracture of tibia of spiral and splintering variety, presenting five distinct segments overriding and assuming various malpositions; entire absence of bone in gap of tibia about three-fourths inch long; some scattered particles of lead in soft tissue. The leg was again scrubbed with soap and water, rinsed with ether and alcohol, and maintained in wet dressing of lysol for 24 hours.

Operation the following morning consisted in exposing the field by a six or seven-inch longitudinal incision along the inner aspect of the tibia. After attending to hemostasis and on arranging the fragments I found one piece which had been driven well out of the field of sufficient length, when fitted in the proximal and distal fragments, to span the gap. I also found a small segment which fitted well two projecting spines extending out from either fragment on the posterior surface; the bundle of fragments thus placed were then bound around by repeated turns of 40-day chromic gut No. 2. I then reinforced the upper bundle with light wire, and closed wound except at point of tissue destruction at exit, which received small drain. Splints were applied. Although a mild infection persisted at drainage point, the patient at no time had any evidence of constitutional disturbance. Several weeks after operation evidence

of suppuration at point of incision just above the wire appeared. The incision was punctured with forceps, and the wire was clipped and removed. This procedure loosened one short segment above, which was finally withdrawn through exit point below.

I present this case for the following points of interest:

(1) As a rather unusual procedure in such cases.

(2) Where amputation has been so often the procedure of choice, should not such efforts as demonstrated here have precedence?

(3) Does the apparent result here justify the significant importance of future similar efforts in such cases?

(4) Could some other technic of splinting in this case present more favorable results than inlaying of autogenous graft as done here?

In conclusion, the long transplant used here was apparently freed of periosteum. However, this proves nothing as the periosteum was most probably retained in the bed of tissue which was closely replaced and sutured over the transplant.

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DISEASES OF THE VERUMONTANUM

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ST. LOUIS

I am championing the cause of a much neglected organ. The subject of my paper deals with a certain field of one specialty which is much overlooked, the diseases of the verumontanum. In the text books on genito-urinary diseases only slight mention of it is made. The fact that many papers have been written on this subject, however, proves that closer observation to this part of the genito-urinary tract would be an advantage, especially so now that we have at our disposal adequate urethrosopes and cystoscopes for examination of the posterior urethra and bladder. The general practitioner is deterred from this work by its requiring special instruments and office equipment, assistants, special training of the eye or hands, or both, and even when he has decided upon the proper course to pursue he approaches it in a half-hearted, unscientific manner the results of which are unsatisfactory to both himself and to the patient.

Every specialty has its untrodden fields. Even the surgeon and gynecologist whose abdominal and vaginal touch is marvelously acute sometimes fail to properly interpret the findings of a rectal palpation of the prostate and vesicles.

If disease of the verumontanum be rare, and we are led to believe so from the scanty literature on this subject, I consider myself fortunate in that I have seen more than my share of such cases. While making the routine examination of patients I have been surprised to find it even more often than I had supposed it to occur.

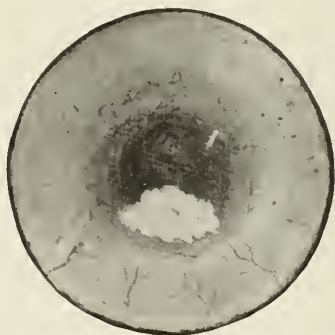


Fig. 1.—Bullous edema surrounding the verumontanum.

The patients suffering from verumontanum disease were young or middle-aged men from eighteen to forty years of age and had usually made the rounds of doctors from "A" to "Z" and then all the way back again; sometimes including myself in the round of doctors. Almost invariably they showed marked nervous tendencies and had been diagnosed anything from neurasthenia to urogenital tuberculosis.

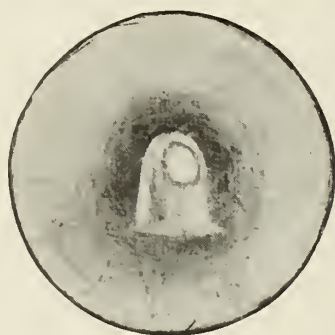


Fig. 2.—Pus coming from the utricle.

The verumontanum, caput gallinaginis, or colliculus seminalis, a small but most important organ anatomically, physiologically and from a standpoint of disease to which it is liable, is formed as a small protuberance on the floor of the prostatic urethra by an elevation of the mucous membrane and its subjacent tissues. It is about 16 mm. in length and 3 mm. in height and, according to Professor Kobelt, is made up of muscular and erectile tissue. On either side of the verumontanum is a depressed fossa run-

ning longitudinally, the prostatic sinus, into which open the ducts from the lateral lobes of the prostate. The ducts from the middle lobe open, as a rule, just behind the verumontanum. At the fore part of the verumontanum in the middle line is a depression, the sinus pocularis. This is usually easily seen on examination with the urethroscope. At its margin are the slit-like openings of the ejaculatory ducts. The sinus pocularis has been termed the uterus of the male because it is developed from the united lower ends of the atrophied Müllerian ducts

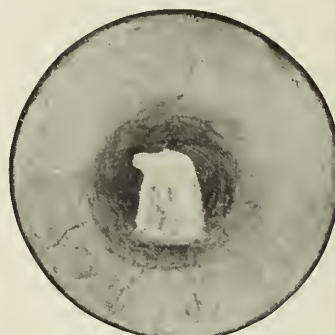


Fig. 3.—Granular horny outgrowths of the verumontanum.

and, therefore, is analogous to the uterus and vagina of the female.

The verumontanum is analogous to the clitoris of the female and is undoubtedly the part of the sexual apparatus most concerned in the pleasurable orgasm occurring during sexual intercourse. During sexual excitement the verumontanum becomes strongly but normally congested and completely closes the urethra be-

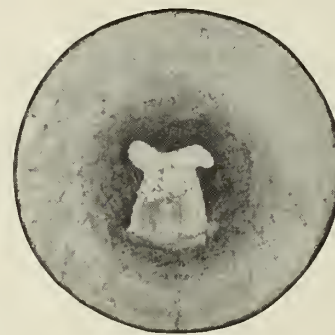


Fig. 4.—Same as Fig. 3.

hind it. In this may it acts as a valve and effectually prevents the escape of semen backwards into the bladder. For this reason the stream of urine from the bladder during an erection is normally somewhat retarded and in some urination is almost impossible until the congestion subsides.

The appearance of the diseased verumontanum varies greatly, the most frequent change being that it is red, edematous, hyperemic and hypertrophied, bleeding at the slightest touch.

If not already discolored by blood when brought into view by the urethroscope, the first touch of a cotton swab causes hemorrhage and on withdrawing the instrument the part falling into the opening bleeds profusely on account of the sudden relief from pressure. It often appears enlarged and at times asymmetrical. The surface may be uneven and granular (Plate 2) having portions of the organ projecting as horns or protuberances (Plates 3 and 4). A marked hyperesthesia of the verumontanum is a very frequent finding. In a few cases I have also

while that on the right side was much thicker, of whitish yellow appearance and offered the same resistance to cutting as scar tissue. Both bands were incised through the mark operating urethroscope and recovery was very prompt. The important complaints of this patient were excruciating pain immediately following intercourse, dribbling of urine after urination, extreme nervousness and since childhood, he said, it took him from five to fifteen minutes to empty his bladder satisfactorily. Both urines

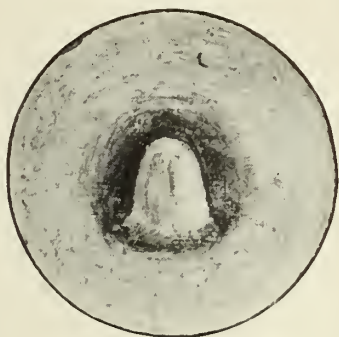
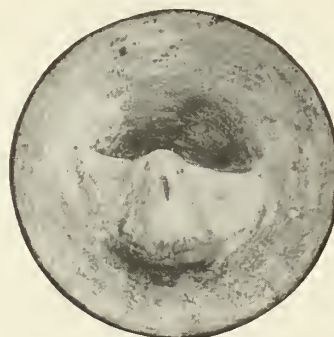


Fig. 5.—Simple hypertrophy of verumontanum.

seen a purulent exudate coming from the ejaculatory (Plate 5) and prostatic ducts. In one case of syphilis with persistently cloudy urine and examination for gonococci negative, a posterior endoscopy showed extensive ulcerations of the verumontanum and prostatic urethra (Plate 6) which later cleared up entirely on anti-syphilitic treatment. Papilloma and other growths have been reported. In one very interesting case I

Fig. 7.—Congenital bands of mucous membrane connecting the sides of the verumontanum with the urethra.



were cloudy. I have been unable to find a similar case in the literature I could procure.

Finger has described several of the later stages, a change into connective tissue thus contracting the ejaculatory ducts and appearing through the urethroscope as a pale pink or whitish nipple (Plate 8). I have seen two such cases. In these cases one sees in contrast to the

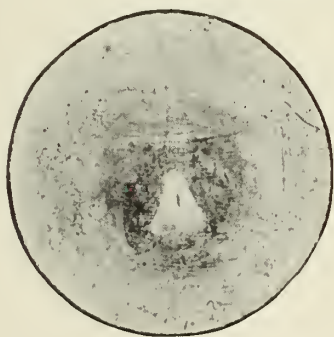


Fig. 6.—Later stage contracted nipple-like verumontanum.

found what I took to be a congenital defect of the verumontanum. This appeared as a thin band of mucous membrane connecting each side of the verumontanum from its highest portion to its base with the sides of the urethra, continuing with the floor of the prostatic urethra (Plate 7).

This was shown to the best advantage with the Mark endoscope, using warmed air as distension media. The band of mucous membrane on the left side seemed normal and very thin

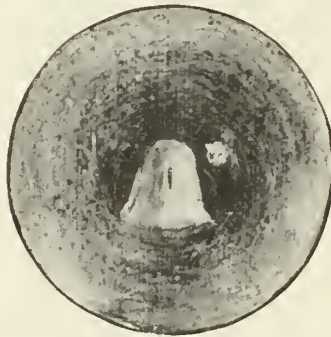


Fig. 8.—Polyp of prostatic urethra and congested verumontanum.

early stages a whitish pink peak with a rather bluish hue at the base of the verumontanum.

Dr. Bransford Lewis lately had a case of a small papilloma in the prostatic urethra (Plate 9) projecting toward the verumontanum which was removed by applying strong silver nitrate solution through a urethroscope, the patient making an uneventful recovery.

The etiology of disease of the verumontanum is more often gonorrhea but many cases have

been traced to sexual excess in the normal manner or by masturbation the latter being far more common. Traumatism by rough urethral instrumentation with sounds or other instruments may also cause verumontanum disease. In patients who are extremely neurotic the hyperesthetic verumontanum will be found more frequently.

The symptoms of a diseased verumontanum are many. The most common is frequent desire to urinate. This would be the natural thing to



Fig. 9.—Ulceration and edema, verumontanum.

expect when the bladder contains from four to six ounces of urine since the internal sphincter then relaxes allowing the urine to flow into the posterior urethra. This contact of urine on a sensitive or hyperesthetic verumontanum causes an urgent desire to urinate. Another rather constant symptom is that of extreme sensitiveness of the posterior urethra to the passage of instruments. As the instrument comes in contact with the verumontanum the patient complains of severe pain. Often impotence develops, the first sign of this being an abnormal erotic condition; such, that merely talking to or seeing a sexually attractive woman causes an almost uncontrollable sexual desire with an erection or even ejaculation. Sexual perversion and rape have been reported during this stage. Later this is followed by imperfect or absent erectile power attended by marked mental depression and, unless relieved, ends in sexual neurasthenia or in some cases in actual insanity.

Other more irregular symptoms are a sense of heat in the perineum, burning after urination, unpleasant feelings, such as weight and pressure in the rectum and involuntary seminal emissions after sexual excitement. Nocturnal emissions associated with acute pain are at times complained of; also dull pains in the lumbar and sacral regions.

The urine in disease of the verumontanum may or may not be cloudy. Of course in the more acute cases—those with ulceration and when associated with prostatitis or seminal vesiculitis—the urine is more apt to be cloudy. Frequently there is a mucous discharge but this is

uniformly found in practically all other chronic diseases of the urethra.

The diagnosis is made by examination of the posterior urethra with the urethroscope. I have used the Buerger cysto-urethroscope with water as a distension medium which is excellent for observation of the verumontanum but unfortunately is not very adaptable for applying treatment. The most satisfactory urethroscopes in my hands were the Mark straight posterior urethroscope with glass window arranged so that warmed air may be used as the distension medium, and the Swinburne curved posterior urethroscope with which air may also be used. The tubes used were of size 22 to 26 French.

The treatment of these cases is as varied as their symptomatology and depends largely on the persistent and systematized efforts of both the doctor and the patient. Extreme gentleness of manipulation and proper local anesthesia of the parts are of utmost importance, since these parts are extremely sensitive as a rule; once they are anesthetized instrumentation is very satisfactory owing to the great width of the prostatic urethra as compared with other parts of the urethra.

In the more acute cases instrumentation should be reduced to the minimum. Here we depend more on rest, non-stimulating diet and internal medication. Sedatives such as sodium and potassium bromide after each meal are efficacious in allaying sexual excitement as during the acute and early chronic stage there is a morbid sexual desire.



Fig. 10.—Marked edema of verumontanum.

The bowels are to be kept moving regularly. After recovery is further advanced bland irrigations under low pressure are given, such as solutions of silver nucleinate $\frac{1}{2}$ to 2 per cent. and cargentos $\frac{1}{4}$ to $\frac{1}{2}$ per cent. If the pain during irrigation be too severe the use of fifteen minims of a 5 per cent. solution of alypin, first injected with an anterior urethral syringe and forced back to the posterior urethra with air, will relieve the patient very much making irrigation painless. As the patient progresses weaker solutions of silver nitrate are used be-

ginning with a 1 to 20,000 and gradually increasing the strength up to 1 to 2,000. At this stage it is usually safe to use the cold urethral syphon (psychrophore). This should be used two or three times a week for five to ten minutes.

The treatment of the chronic disease of the verumontanum must certainly be termed heroic. Nitrate of silver in strong solutions is a specific if judiciously used. Solutions of this salt from 20 to 50 per cent. have been most satisfactory in



Fig. 11.—Marked hypertrophy and edema of the verumontanum.

my cases, the weaker solutions being less beneficial and causing quite as much irritation. This is used in the following manner, patient being in the lithotomy position with the hips slightly elevated: Anesthetize the posterior urethra by injecting five or ten minims of a 5 per cent. solution of alpin with a deep urethral syringe, waiting a few minutes for the effect. The urethroscope of choice is now gently passed to a distance about $\frac{1}{2}$ to 1 inch beyond the cut-off muscle, where generally the verumontanum will be found projecting into view. For observation on the first examination air or water may be used to distend the urethra, getting a more extensive view of the verumontanum and the surrounding parts. Silver nitrate is now applied by means of cotton swabs. These swabs should be carefully prepared in two sizes, one large for mopping and drying the urethra, another small for applying silver nitrate solution. The cotton is made definitely secure to the wooden applicators by first moistening their ends with lubricine. The urethra is first dried and hemorrhage stopped. Then the silver solution is applied until a dense whitish coating of the verumontanum is seen. Care must be taken not to get the solution over other portions of the posterior urethra as this would only increase the patient's discomfort and make a severe reaction possible. After the application the surfaces are again dried before removing the urethroscope. These patients usually have only slight burning after the first two or three urinations. I have used lunar caustic fused onto applicators but the results did not seem as satisfactory and the dan-

ger of having small pieces of caustic break off into the urethra was another objection to its use. In a few cases where polypi are present or the hypertrophy of the verumontanum is excessive, resembling small outgrowths or tumors, the curet is indicated, but hemorrhage in curetting these parts is severe and frequently entails the giving of a general anesthetic. Fortunately this procedure has lately been supplanted by using the high frequency current through an operating urethroscope. The results in one of my cases where there were horny outgrowths were surprisingly good. There was practically no reaction following the cauterization by this method.

In a few cases the bladder contracts during instrumentation of the posterior urethra even though it has been previously emptied, forcing urine into the lower end of the urethroscope. This annoyance is overcome by drawing off the small amounts of urine as they appear with the aspirator. If the posterior urethra is first properly anesthetized this trouble is reduced to a minimum.

CONCLUSIONS

1. That the verumontanum is frequently diseased and should be included in the routine examination of chronic affections of the urethra.
2. If disease of the verumontanum is found it will most surely respond to treatment although occasionally extending over a long period of time.



Fig. 12.—Same as Fig. 11 immediately after applying 50 per cent. silver nitrate solution.

3. Perfect local anesthesia and extreme gentleness of manipulation are of the utmost importance in treating chronic diseases of the verumontanum.
4. Silver nitrate in strong solutions supercedes all other local medication.
5. High frequency current applied through an operating endoscope is very efficient in removing excessive outgrowths and polypi in preference to the curet.

550 Century Building.

A PRACTICAL STERILIZING POCKET THERMOMETER CASE

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ST. LOUIS

For the past two years I have had in daily use a sterilizing thermometer case of my own design. During this entire time my experience with it has been so thoroughly satisfactory that I have now no hesitancy in recommending it to the profession. In this interval I have learned that there are two important factors in addition to the case which are helpful in making a sterilizing case practical. I refer to the germicide to be used in the case and to the markings on the thermometer. Unfortunately, thermometers are generally marked with a material that is readily absorbed by most of the solutions that seem to be practical to use as germicides. After trying a number of marking materials I found a compound or substance put out under the name of "caementium" which answers the purpose admirably. Some few of the thermometer manufacturers are now marking their thermometers with a material that seems to be equally satisfactory to that which I suggest.

Caementium is marketed in small packages and is generally purchasable at drug, hardware and department stores, so far as my information goes. Just as I am sending this to the publisher I find that the name of the material has been changed to "caementum," and the label reads, "This jar contains a new and perfect form of liquid porcelain cement superior in every respect to my original caementium." It is manufactured and sold by Chas. W. Dopson, 40 Rue Thiers, Dieppe, France. A short trial of caementum indicates that it is equally as satisfactory as caementium.

The caementium is applied to the thermometer very readily even by an inexperienced person. If the instrument is marked with some material generally utilized for marking, liquoris cresolis compositi will ordinarily absorb the markings in the course of a few hours. After the thermometer is entirely free from the old marking ink and is thoroughly washed and dried the caementium is applied by spatula or fingers and rubbed evenly into all the notches. Most of the excess of the caementium is removed at once and the thermometer is laid aside to dry for 36 to 48 hours. At the end of this time the thermometer is polished with a piece of pumice stone. This readily takes away all the caementium, except that deposited in the grooves. The caementium is white. In order to have black markings a very small amount of lampblack—soot from the furnace is what I have used—may be mixed with the caementium to obtain the desired hue. I have made successful reds, yellows, etc., by mixing small

amounts of the desired color of china paints with the caementium.

This marking has proven to be relatively unabsorbable by the ordinary germicides which I have used. I have tested and proved its permanency in bichlorid of mercury solutions, tincture of iodine, alcohol, potassium permanganate, phenol, liquoris cresolis compositi, etc. I have no accurate record of the longest time I have used any one thermometer, but suffice to say that I have used the thermometers so marked many months without wear of the markings being evident.

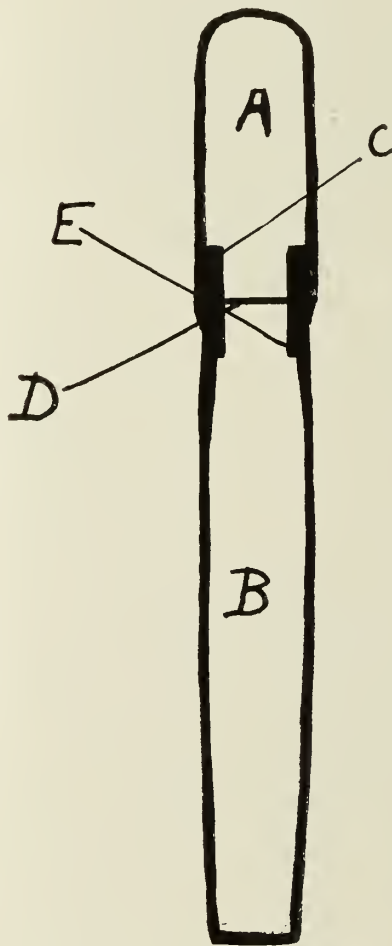


Fig. 1.—A cross section drawing of the case, actual size.

In the case to be described the thermometer is inserted into the case through a small slit in a rubber diaphragm. In order that the thermometer may be introduced easily, a germicide with lubricating properties is advantageous; and further, as rubber is used, a chemical that does not dissolve or devitalize rubber is preferable. I have found liquoris cresolis compositi to answer both of these specifications admirably.

When the thermometer is withdrawn from the case containing the germicide it will always

be covered with the chemical. The instrument must be thoroughly washed, preferably in running water, and then dried on clean gauze or other substance. Even then there will usually be just enough of the taste to let the patient know that the thermometer has come from some cleansing or antiseptic fluid. And this is an important point in this day in which the laity is giving much thought to the dissemination of germs. A second advantage of liquoris cresolis compositi is that it does not evaporate readily, and a third point is that the material is sufficiently viscid to prevent its escape from the case even when the hole in the diaphragm is beginning to gape.

The essential feature of my case consists of a rubber diaphragm held in the open end of the tube by means of shoulders (see diagram). The case is made of hard rubber. The one that I have carried was made by the Boston Fountain Pen Company and is about $\frac{1}{16}$ inch in

medium weight to be very adaptable. Relatively thin rubber and rubber with excellent elasticity is essential. Although I have not used it I should think that the rubber dam used by dentists would serve admirably.

The case is capped in a manner similar to the ordinary fountain pen. The thermometer to be used should obviously not be of too heavy glass. I have experienced no difficulty however with the thermometer ordinarily used. To introduce the thermometer it is given a slight rotation thus facilitating the escape of the necessary air to give room for the thermometer in the tube. The germicide is introduced into the tube by means of a medicine dropper through the cut in the diaphragm. In general appearance the case resembles a medium-sized fountain pen. A clip similar to those used on a fountain pen takes the place of the ordinary chain.

An application was filed for patent on this case and although the same was granted by the department at Washington it was not taken out. As this type of case will cost but little more than the ordinary case given away with the thermometer it is hoped that the enterprising thermometer firms will supply this case with their thermometers. My experience with it leads me to say that a physician who has once used it will be loath to do without it.

The work on this case was stimulated by the request made several years ago by the editor of *The Journal of the American Medical Association* for such a case. The suggestion that the liquoris cresolis compositi has a good effect on rubber came from Dr. W. S. Cox of Cuba, Mo., and I am indebted to Mrs. Brown for suggesting the use of the china paints and the caementium.

306 Humboldt Building.

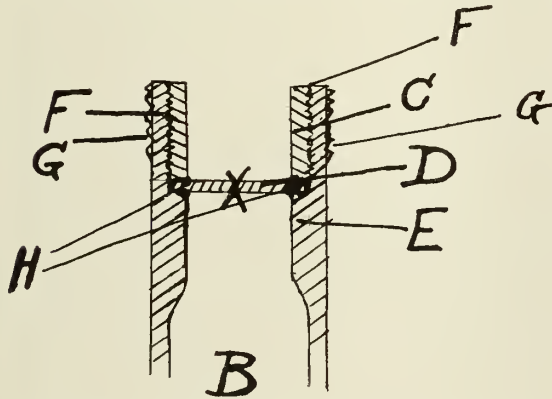


Fig. 2.—Detail of the construction, twice the actual size. A is the cap for the case and screws on the case over the threads G. B is the body of the case where the germicide is retained. C is the ring or shoulder of hard rubber that screws into the threads F and holds the diaphragm D against the shoulder E. E is a part of the case wall or it may also be screwed in as is C. H is the L projection or lip on each of the shoulders, these assist in holding the diaphragm in place. These are not absolutely essential. A ring bearing this lip may be used advantageously on top of the diaphragm, thus preventing the doubling up of the rubber when the shoulder is screwed down. X is the X-like slit in the diaphragm.

breadth at its middle and $\frac{7}{16}$ at the ends, and the thickness of the rubber is about $\frac{1}{16}$ of an inch. About $\frac{1}{4}$ inch from the free end of the case is a narrow shoulder with a thin lip projecting upward from its inner margin; upon this rests the rubber diaphragm cut just to fit the inside of the tube; the mouth of the tube is threaded and a threaded second shoulder, also with a narrow lip to meet the lip on the other shoulder, is screwed down upon the diaphragm. The diaphragm is firmly held in place by these shoulders. A new diaphragm may be introduced at any time. Any good rubber may be used for cutting the rubber disks. I have found rubber from torn rubber gloves of

At the state fair, Sedalia, September 25 to October 2, a program of lectures on public health topics was arranged under the auspices of the Missouri State Medical Association and the state commissioner of food and drugs. The program included the following: Dr. R. M. Funkhouser, St. Louis, Eugenics; Mr. F. H. Fricke, state pure food and drug commissioner, Food and Drugs; Dr. R. E. Schlueter, St. Louis, Cancer; Mr. H. E. Wiedeman, state chemist, Household Tests; Dr. F. G. Nifong, Columbia, Economic Value of Medical Science and Its Service to the World To-Day; Dr. M. P. Ravenel, Columbia, Every Man His Own Life Insurance Agent; Dr. F. H. Matthews, Liberty, Contagious Diseases; Dr. Guy Titsworth, Sedalia, How to Keep the Eyes Well. Motion pictures on health protection were shown after each lecture.

THE JOURNAL

OF THE

Missouri State Medical Association

Address all Communications to 3525 Pine Street, St. Louis, Mo

NOVEMBER, 1915

EDITORIALS

EXPELLED FOR FEE-SPLITTING

The first trial of a member of the Missouri State Medical Association on a charge of fee-splitting and offering to split fees was held recently by one of our component societies. The offender was found guilty by the board of censors and expulsion recommended. The report of the censors was adopted by the society and the sentence carried out. The expelled member was also a Fellow of the American Medical Association, which affiliation he loses.

In attacking some evils the best way to abolish them is to apply the whole force of our strength against them at the outset. This was done in the agitation against fee-splitting; the practice immediately decreased in all parts of the state where it had been prevalent and has disappeared altogether in some places where it had threatened to gain a foothold. We need not expect, however, that simple threats to punish offenders or prohibitory resolutions and laws will efface this blot on our escutcheon. We must do more than that—we must drive out of our ranks those who persist in dishonoring their profession and deceiving their patients.

It is now three years since the association adopted the by-law against fee-splitting and the case mentioned above is the first prosecution for violation of the section. This seeming indifference is due not to the inactivity of the officers of the association but to the fact that it has been difficult to obtain evidence supported by competent testimony. This evidence must of course come from some member who has knowledge of the offense and will produce documentary proofs to substantiate the charge—a step that is offensive and repugnant to the finer feelings of the honest practitioner. Therein lies the grip of the fee-splitter. Having Oslerized his own sense of honor by avarice and the greed for gold he gambles with fate against exposure by men of purer motives and higher ideals. But conditions are rapidly changing. The fee-splitter is finding himself ostracized by the respectable men in the organization and these men are beginning to understand that the only way to purify our ranks is to expose and punish offenders.

The trial and expulsion of the guilty member referred to above is a warning to others that an awakened profession will purge itself of members who defy the traditions and lower the tone of our profession.

RESOLVES TO COLLECT 1916 DUES EARLY

It is gratifying to receive letters from county societies so early in the year asking for bills for 1916 dues, with expressions of their appreciation of what organized medicine is doing for the doctor, both in a material and in a scientific way. The excellent reports of county society meetings portray the various activities being pursued and who will say society membership is not worth while? Invariably it is the member who contributes little or nothing to the programs of the county society meetings or to other activities of the organization that views the results of united effort through myopic eyes. Naturally he is dissatisfied with the prospects.

The honor roll has served its purpose well—so well that it will be continued in 1916. Which county society will be the first to earn a place of distinction by a full-paid-up membership?

Resolve to make a careful study of local conditions in the county and report to the state secretary any plans that will make for stronger and better members of our organization so the state association can assist in carrying out these plans.

EDWIN NELSON TOBEY, M.D.

Dr. Edwin Nelson Tobey, assistant city pathologist, St. Louis, and instructor in pathology St. Louis University, was on board the *S. S. Marowijne*, which left Porto Barrios, Aug. 12, 1915, and has not since been heard of. Dr. Tobey's life had been devoted to the science of medicine, and it was on a scientific expedition which was planned to pave the way for the establishment of a biologic station in Central America, which would serve particularly the medical and academic schools of the Middle West, that Dr. Tobey was lost.

Dr. Tobey was born in Milbury, Mass., July 16, 1871. He was graduated from Harvard 1896, received the M.D. degree in 1901 and A.M. in 1906 from the same school. He was instructor and research assistant in the Liverpool School of Tropical Medicine in 1906-07, and assistant in bacteriology in Harvard Medical School, 1907-11. Dr. Tobey came to St. Louis in 1911 as assistant pathologist, St. Louis City Hospital, and was also instructor in pathology and tropical medicine in the St. Louis

University Medical School, which positions he held at the time of his death.

Dr. Tobey was the typical student and investigator, who devoted his whole life to the laboratory side of medicine. His contributions cover a wide field, particularly in the advancement of our knowledge of bacteria and protozoa. He had worked on the trypanosomes probably more extensively than any other man in America. He was a member of the American Association of Pathologists and Bacteriologists.

Living quietly at home, Dr. Tobey devoted all his time outside of his work to his mother, and only those who know the close companionship that has existed between these two for all the years of his student days and later life can feel the force of the great tragedy in the untimely loss that is briefly chronicled in the letter that follows by Alphonse M. Schwitalla, who was with Dr. Tobey on his last expedition.

During his stay at the Liverpool School of Tropical Medicine, where he studied the collections of protozoan parasites brought home by the expedition to the Congo, Dr. Tobey had conceived a strong desire to devote his time to more extended work in this promising field. As instructor in tropical medicine at the St. Louis University, moreover, he had frequently felt the need of a more detailed knowledge of the tropics. To supplement this knowledge, as well as to open up problems for further research, Dr. Tobey finally in the spring of 1915 planned the organization of a series of annual expeditions for the purpose of studying tropical conditions in their relation to disease. His plan, comprehensive and far-reaching, was submitted to the officials of the university and commended itself to the president and his advisers. Dr. Tobey was accordingly authorized to undertake a preliminary survey in the university's name. British Honduras was chosen for this year's trip. As it was not known what conditions would be encountered and what work would be done the party was purposely kept small.

With Dr. John P. Coony and Mr. Alphonse M. Schwitalla, Dr. Tobey left St. Louis on July 20 and sailed from New Orleans on July 22 on the United Fruit Company's steamer the *Maroweijne*. On arriving at Belize, the chief port and capital of British Honduras, on Sunday, July 25, the hospitality of St. John's College was generously extended to the party by the Rev. William Mitchell, S. J., and his lordship, Frederick Hopkins, the catholic bishop of Honduras. Through the influence of the latter an interview with the governor was arranged for on that same afternoon. His excellency, Sir Wilfred Collet, K. C. M. G., was most gracious. Having held government posts in several of the British tropical possessions, he was in thorough sympathy with the work of the expedition. By his thoughtful considerateness he

was able to forestall many of the difficulties which might have proved rather serious. His offers of assistance, moreover, were not empty compliments. He gave the party letters of introduction to the government officials and put his private launch, the *Patricia*, at the disposal of the visitors.

On the next day the party sailed for Corozal, a coast town thirty-five miles to the north of Belize, the chief city of the Corozal district. It was here that the working plan was first tried and found to be serviceable. This plan was followed substantially in all the villages that were visited. The assistance of the resident pastor and the government health officer was first requested. The former was asked to point out cases of special note among the members of his flock, while the medical officer was interviewed regarding the health conditions of his district, the relative prevalence of disease, measures for combating diseases, and such like topics. These interviews were invariably found to be most helpful. The hospitals were then visited and calls were made on patients. Notes were taken on all cases of importance and, when necessary, blood and pus smears were made. The services of the schoolchildren were enlisted for procuring insects and other infected animals. The children responded most generously, as was found out almost to the sorrow of the visitors, who sometimes found themselves unable to handle the amount of material that was supplied.

While the party was in Corozal visits were made to the neighboring Indian village of Xeibe, and to the largest sugar plantation in the district, Saltillo. Cases of considerable interest were found in both places.

After spending three days in this district, the party returned to Belize, where July 29, 30 and 31 were spent in much the same way as the three days at Corozal.

On August 1 the visitors left for the south, arriving about nightfall at Stann Creek, the largest city in its district. Here a similar program was repeated. Middlesex, the largest banana plantation of the United Fruit Company in Honduras, was also visited. A further journey southward brought the expedition to Punta Gorda. After spending two days here Dr. Tobey had to seize a favorable opportunity for sailing to Porto Barrios, the chief port of entry on the Atlantic side to Guatemala. All the members of the party had arranged to make this trip in order that they might visit the hospital of the United Fruit Company at Quirigua, the largest of its kind in Central America, but as certain letters for Dr. Coony and Mr. Schwitalla had been delayed in Belize, these two were forced to remain in Punta Gorda. It was thus that Dr. Tobey became separated from the other members of his party.

It was learned afterwards that Dr. Tobey had visited the hospital at Quirigua and another at Zacapa and that he had journeyed to Guatemala City, where he met the members of the Rockefeller International Hookworm Commission. He set sail from Porto Barrios on his return voyage to the States on August 12 on what proved to be the last trip of the *Marowijne*. The boat stopped for half a day at Belize, and it was here that, according to arrangements, the other two members of the party were to meet Dr. Tobey for a final consultation before the latter's return to St. Louis; but they missed the boat by barely a quarter of an hour. Dr. Coony and Mr. Schwitalla remained in Belize for another week, engaged in procuring entomologic material and looking up a station for future biologic work. The doctor's fate, however, is even to this moment shrouded in the deep mystery that surrounds the fateful last voyage of the *Marowijne*. There can hardly be any reasonable doubt but that the ship encountered the hurricane that swept the Caribbean Sea and the gulf from August 12 to 16, and that all on board, thirty-five passengers and sixty-three members of the crew, perished.

OBITUARY

JOHN J. BAZAN, M.D.

Dr. John J. Bazan, a graduate of Central Medical College, St. Joseph, 1902, died in his office at St. Joseph, August 27, 1915, age 44. Dr. Bazan is the brother of Dr. L. A. Bazan, of Moberly, a member of the Missouri State Medical Association, and since his graduation has resided and practiced in St. Joseph.

DAVID F. DUMBAULD, M.D.

Dr. D. F. Dumbauld, a graduate of Columbus Medical College, 1883, after a lingering illness, died at his home in Carl Junction, August 27, 1915, age 54. Until two years ago he resided at Sarcxie, Mo. His nephew, Dr. B. A. Dumbauld of Carterville, is a member of Jasper County Medical Society and the Missouri State Medical Association.

CHARLES LOUIS CARRIERE, M.D.

Dr. Charles L. Carriere, a graduate of the Homeopathic Medical College of Missouri, St. Louis, 1871, died September 17, 1915, at his residence, 2128 St. Louis Ave. Dr. Carriere was a minister and physician but better known

as a physician, and had resided in St. Louis many years. He was 76 years old. Two sons, Drs. Theodore L. and Victor A. Carriere, who are members of the St. Louis Medical Society and the Missouri State Medical Association, reside and practice in St. Louis.

ELMER LINCOLN MITCHELL, M.D.

Dr. Elmer L. Mitchell, a graduate of Keokuk College of Physicians and Surgeons, 1894, died at his home in Lancaster, Mo., September 11, 1915, age 51.

Dr. Mitchell practiced in Lancaster for many years and was identified with all movements for the good of the community. He will be sorely missed not only by his brother physicians but as a private citizen, and his many acts of kindness and charity will long remain fresh in the hearts of a host of warm friends and admirers. He has long been an active member of the Schuyler County Medical Society and the Missouri State Medical Association.

GEORGE ERNEST McNEIL, M.D.

Dr. George E. McNeil was graduated by the Beaumont Hospital Medical College, St. Louis, 1890, with honors, and soon thereafter was appointed house surgeon at the M. K. & T. Hospital, Sedalia, which position he held at the time of his death, August 15, age 51.

Dr. McNeil was born at Elston, Mo., February 15, 1864, and grew to manhood in that community, living on a farm and attending public school in the winter. When 19 years old he entered Clarksburg Academy from which he graduated, and afterwards entered Otterville College and graduated receiving at that time a life certificate to teach school. He taught in the Otterville College a number of years before deciding to take up the study of medicine.

In 1894 Dr. McNeil took a postgraduate course in the New York polyclinics and further pursued his studies in clinics abroad. He stood high in the opinion of medical men and as a citizen enjoyed the high regard of all who knew him. He was a member of the Pettis County Medical Society, having served that body as president and secretary and was an active member of the Missouri State Medical Association and the American Medical Association.

The funeral was held Tuesday, August 17, at the First Baptist Church, and interment at Crown Hill cemetery. His pall bearers were selected from the Masons, the First Baptist Church, Odd Fellows and the Pettis County Medical Society.

NEWS NOTES

DR. S. D. REYNOLDS of State Hospital No. 3, Nevada, has resigned. He will return to Brunswick and take up private practice.

DR. JOHN C. ZUERCHER has returned to St. Louis after spending six months in the clinics of New York and other eastern cities.

DR. P. G. HURFORD of St. Louis addressed a public meeting during the baby health conference at Canton, Mo., October 8. His subject was The Health and Care of Babies.

DR. GIVEN CAMPBELL of St. Louis and his wife narrowly escaped serious injury recently when the oil tank on their automobile became ignited from a leaking pipe. The automobile was destroyed.

DRS. M. A. GOLDSTEIN, Oscar F. Baerens, Meyer Wiener, F. A. Hardy and John Green, Jr., of St. Louis, attended the twentieth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology at Chicago, October 8.

ON the invitation of the Greene County Medical Society, the Springfield Bar Association met with the society September 24. Mr. J. T. White read a paper on Medical Jurisprudence. The joint meeting with the medical society is an annual event.

DR. FRANK GORDON of St. Louis delivered a lecture on The Health and Care of Babies at the baby health conference at Fulton, held under the auspices of the Callaway County Medical Society and the Ladies Home Makers Club, September 24.

DR. JULES M. BRADY of St. Louis and Dr. C. C. Conover of Kansas City were the guests of the Monroe County Medical Society, October 5. Dr. Brady held a clinic on diseases of infancy and Dr. Conover demonstrated a number of heart cases.

THE Southeast Missouri Medical Association held its semi-annual meeting at Farmington, October 19 to 21. About seventy-five members were present. They were entertained at a banquet at State Hospital No. 4. The next meeting will be held at Cape Girardeau in May.

DR. FRED T. MURPHY of St. Louis was a guest at the annual meeting of the Wisconsin State Medical Society, October 7, and delivered the address in surgery. His subject was The Influence of Certain Foreign Bodies upon the Progress of Repair in Fractures of the Long Bones.

DR. N. P. WOOD of Independence delivered an instructive address on What Our Schools Owe the Public, at a joint meeting of the county school directors and the Putnam County Medical Society, at Unionville, October 16. In the evening he gave a talk to the members of Putnam County Medical Society.

THE automobile of Dr. A. F. Dames of St. Louis was demolished by a railroad train near St. Peters on September 26. Dr. Dames with his family were on the return trip to St. Louis and while crossing the railroad tracks, when the engine of the automobile went "dead." The approaching train was so close that the family barely had time to escape, and one of the children suffered a severe shock and lacerations and bruises about the face.

THE health commissioner of St. Louis has ordered the arrest of several persons afflicted with diphtheria who have violated the quarantine law. The health commissioner has also warned physicians that the law governing quarantine of diphtheria victims will be strictly enforced and physicians will be held accountable for permitting violations. There was a severe outbreak of diphtheria in the northern section of the city in the latter part of September.

S. R. CHAMLEY, who operated a cancer institute in St. Louis some years ago which the post-office department declared was a fraud was arrested in San Francisco recently, charged with using the mails to defraud. A short time ago Chamley sent a letter to numerous physicians in Missouri offering his "secret formula" for the relief of cancer for \$20. The secretary of the State Medical Association received such a letter and sent it to the postoffice inspector at St. Louis with a history of Chamley's career. The inspector forwarded the information to San Francisco and the arrest of Chamley followed.

AN investigation was conducted by the bureau of public health and hygiene of the New York Association for Improving the Condition of the Poor and has issued a special publication entitled, "Flies and Diarrheal Diseases," descriptive of its three months' study in the homes of over a thousand infants in New York City on the relation of flies and diarrheal disease. Special attention has been given such influencing factors as dirt and artificial feeding, and their relative importance determined. A full description of the study with its important conclusions may be obtained by request from Philip S. Platt, superintendent of the bureau, 105 East 22d St., New York.

DURING September the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

Cutter Laboratory: Anti - Pneumococci Serum: Syringes 10 Cc. Diphtheria Antitoxin Globulin: syringes 2,000, 3,000, 4,000, 5,000 and 10,000 units each. Normal Serum (from the horse): Syringes 10 Cc. Tetanus Antitoxin: Syringes 10 Cc.

Hoffmann-LaRoche Chemical Works; Imido, Roche: Ampules Imido Roche.

H. K. Mulford Co.: Mercurialized Serum, Mulford: Mercurialized Serum Nos. 1, 2, 3, 4, 5, 6.

Schieffelin and Co.: Radio-Rem: Outfit No. 4.

Standard Oil Co. of California: Calol Liquid Petrolatum, Heavy.

Morgenstern and Co.: The Council has recognized Morgenstern and Co., as selling agent for Dolomol and the Dolomol preparations in "New and Nonofficial Remedies." The Council is assured that these preparations will be marketed in accordance with its rules.

White Chemical Co.: The Council has recognized the White Chemical Company as selling agent for Apinol. The Council is assured that this preparation will be marketed in accordance with its rules.

MEMBERSHIP CHANGES, OCTOBER

NEW MEMBERS

Horace W. Carl, St. Louis.

Cyrus D. Cantrell, Kansas City.

Prem J. Ross, St. Joseph.

CHANGES OF ADDRESS

Samuel Ayers, 3729 Galt St. to 6036 McGee St., Kansas City.

C. B. Davis, Walker to Nevada.

Edwin W. Eberlein, 1208 Dillon St. to 2024 S. Jefferson Av., St. Louis.

Sylvester D. Fox, Kansas City to St. Louis.

Thos. J. Gibbs, Florence to Proctor.

E. F. Harrison, Clarkton to Kennett.

Grace Huse, 5571 Von Verson Av. to 535 Clara Av., St. Louis.

J. D. Jackson, Marshall to Kansas City.

Eugene M. Lucke, St. Louis to Gray Summit.

B. R. McAllaster, King City to Carthage.

James T. Morgan, Canton to Casa Verdugo, Calif.

John H. Nixon, Springfield to Chicago.

Q. U. Newell, 3651 Delmar Blvd. to 304 Wall Bldg., St. Louis.

George Osborn, Holden to Lonejack.

Francis Ritchie, 2700 Etzel to 5282 Waterman Ave., St. Louis.

J. A. Robertson, Rialto Bldg. to Wesley Hospital, Kansas City.

Omar R. Sevin, Barnes Hosp. to 5086 Westminster Pl., St. Louis.

A. F. Sternfels, 2270 Fair to 4169a Farlin, St. Louis.

Frank L. Trippier, College Mound to Beaver Creek, Colo.

D. O. Vandeventer, Garrison to Sparta.

A. L. Wessling, Freeburg to Springfield.

M. S. White, Shannondale to New Cambria.

John Zahorsky, 1460 S. Grand Av. to 4435 W. Pine St., St. Louis.

RESIGNED OR DROPPED

Elmer T. Davis, Kansas City.

J. Herbert Smith, Kansas City.

A. L. Shanks, Hannibal.

Christian H. Diehl, Buckner, Ill.

DECEASED

G. H. Charles Klie, St. Louis.

Richard H. McBaine, St. Louis.

George E. McNeil, Sedalia.

E. L. Mitchell, Lancaster.

MISCELLANY

PUNISHMENT

A dealer in worthless tin cans—his name Elvard L. Moses, his goods known as "Oxypathors"—was sentenced last winter to serve eighteen months' imprisonment in the Atlanta Penitentiary for using the mails to defraud. After duly recording this fact, we somewhat too hastily concluded that justice had been well served. We sealed up "Moses, E. L.," in a big envelope, and cautioning Carie not to disturb the dust on "Baling Case" and "Spanish-American War," packed off Moses to our morgue. But the other day we had to dig him up again. A letter from a woman in Bremerston, Wash., jarred us out of our complacency. Moses has \$35 of hers, she points out, and no one is making any move to return it. After eighteen months have passed, the faker will emerge from jail, still a millionaire (if that is the measure of the money he made out of it, while the unlucky purchasers of his "Oxypathors" will be just as much out of pocketbook as ever. Our correspondent can't see the sense in this brand of man-made justice; womanlike, she wants to know why the law doesn't make Moses buy back his tin cans; she could use \$35 at the present time to the best advantage. Now that our attention has been called to the matter, we think she's dead right. Jail won't do Mr. Moses much good, nor will it make his victims any happier. The only way our correspondent could recover her money would be by a suit that would cost her more than a No. "OO" Duplex "Ovypathor" with sterling silver buckles. "Must the duped," our correspondent asks, "be satisfied with a lesson learned?" Apparently they must where the sums involved are each comparatively small. Speed the day when justice shall be free and dishonesty more expensive! "Perhaps," our correspondent hopefully concludes, "an appeal to the man himself might work the miracle?" We can only answer: it would if he were much of a man.—*Collier's*.

NOW IT'S A "SURVEY"

It appears that the hospital and health board is determined to continue the disorganization of that important department by employing a man to make a "survey" of the health conditions of the city and recommend procedures "to increase the efficiency" of the department. Dr. Paul Paquin, a nonresident, has been chosen for this work and his qualifications are said to be entirely satisfactory. The administration is also to employ a nonresident as dairy and food commissioner, and he is expected to "stir things up" in the near future. The two old and experienced men of the department who have demonstrated their efficiency for this work through long and satisfactory service are, according to this plan, to be discharged. This is their reward for having remained at their posts and attended to their duties instead of giving their time to political work.

If the city administration is fully committed to making these changes, then the public will make the best of the situation and every aid possible will be extended under the new order. If it is to take three months to make the "survey" of the health department it will be well into the summer before complete reorganization can be effected. Naturally nonresidents are not as familiar with conditions as those who have been actively identified with the department for years, and it will be necessary for the new officials to get some idea of the needs of the city. That time could have been saved had the board adhered to the rule of civil service and advancing worthy employees who are thoroughly qualified.

There has not been a time within the memory of most Kansas Cityans when a scandal in the health department was not impending or in active eruption. It has been almost a byword in this city that the general hospital is in a constant state of turmoil. It was hoped Mayor Jost would insist that this institution as well as the entire health department should be solidly organized and managed in a strong and business-like fashion to the end that it could give a maximum of service to the public. The present hospital and health board is a one-man affair, the two other commissioners being seldom heard from and scarcely known at all in connection with their official relations to the president of the board. Kansas City has a right to better service than it has been getting in the way of protecting the public health. It has a right to have its health matters directed and supervised by experts thoroughly familiar with the city and its needs. The season is rapidly approaching when the health department will be called on to exert its best efforts to keep down disease, and the public may be pardoned if it looks somewhat askance at the prospect of a "survey" when active and constructive organization should be well under way.—*Kansas City Journal*.

WELL DONE, SEDALIANS

No enterprise ever undertaken by Sedalia people is fraught with such golden possibilities for good as that just brought to successful fruition in the transferring to the Sisters of Charity of the Incarnate Word the property heretofore known as the Maywood Hospital, and giving into the hands of these devout and consecrated religious the management and control of the institution.

From the dawn of Christian civilization, following almost at once the coming of the spiritual rule of the Prince of Peace, women, such as these who are to take this hospital, have forsaken the world, and, without personal compensation or hope of any reward,

except divine approval, have ministered to the stricken ones of the earth; have eased their beds of pain; cared for and comforted them in suffering and agony; tenderly nursed them to health, and, when human aid has failed, prayerfully held their hands while they passed through the Dark Shadows and crossed the River of Death.

On every battle field in the world's history; in every pestilence; in every flood and conflagration, wherever there has been a catastrophe, wherever came death or pain or sickness in the crowded habitats of men, or in the dreary deserts of despair, they have ministered gently and lovingly to suffering mankind.

The benediction of their presence has brought hope and life and health to countless thousands in every clime, under every sun.

That these sisters, devoted, sincere and merciful, are to come to Sedalia and minister to those who suffer, cannot but be received with joy and gladness by all having in their hearts the true spirit of brotherly love, who would lighten sorrow and drive pain and sickness from human bodies.

The potentialities of this institution for good, under their charge, cannot be fully realized as yet, but as time goes by and the hospital becomes known by its works, when those benefited by its ministrations rise up to testify to its benefactions, all those men and women who, by their generous gifts and unselfish work, have made possible its existence here will feel a thousand fold repaid for all that they have done in the compassionate undertaking.

The men who first thought out and brought to a successful consummation the plans, and especially the large contributions, are to be congratulated that they have been permitted to take so large a part in a work that will grow greater and grander and more beautifully helpful as years are added to years, and the places that know us now know us no more forever.

Then, before the Great White Throne will they receive their reward, when to their listening ears will come the words, "Well done, thou good and faithful servant, enter thou into the joys prepared for those who loved and served their fellowmen."—*Sedalia Democrat*.

ST. LOUIS EYE, EAR, NOSE AND THROAT INFIRMARY—RESOLUTIONS ON THE DEATH OF DR. HORATIO NELSON SPENCER

Dr. Horatio Nelson Spencer was born in Port Gibson, Miss., July 17, 1842, and died in Atlantic City, N. J., Aug. 3, 1915. He was educated in the University of Alabama and the Southwestern Presbyterian University, receiving the degrees A.B. and A.M. He received his undergraduate medical training at the New York College of Physicians and Surgeons, receiving the degree of M.D. in 1869. In 1869-1870 he did postgraduate work in the University of Berlin.

At the outbreak of the Civil War he enlisted and served with distinction in Cowan's Battery, Loring's Division, C. S. A. In 1870 he moved to St. Louis and established himself in practice. Soon after, he began to devote himself exclusively to otology and quickly attained an enviable reputation throughout the Mississippi Valley. He suffered the hardships of the pioneer, but also received the rewards of efficiency. In 1879 he established the *American Journal of Otology*, remaining its editor until 1883.

He was appointed professor of otology in the Missouri Medical College in 1881, continuing in this capacity until 1899, when, through the merging of the Missouri Medical College and the St. Louis Medical College to form the Medical Department of Washing-

ton University, he was chosen as professor of otology in the Medical Department of Washington University. He received the honorary degree LL.D. from Westminster College. At the time of the organization of the St. Louis Eye, Ear, Nose and Throat Infirmary, Dr. Spencer was unanimously chosen as honorary consultant in otology. He manifested the keenest interest in the infirmary, often aiding with wise counsel.

In consideration of the high and honorable standing of Dr. Spencer and of our great respect for him as a man and a scientific physician, the board and staff of the St. Louis Eye, Ear, Nose and Throat Infirmary have adopted the following preambles and resolutions:

WHEREAS, In the death of Dr. Horatio Nelson Spencer the medical profession of St. Louis and the Mississippi Valley has lost one of its foremost representatives; and

WHEREAS, Otologic science has been deprived of a pioneer whose attainments in his specialty were universally recognized; and

WHEREAS, His family has been bereft of a loving husband and father and his friends of a charming and congenial companion; and

WHEREAS, The St. Louis Eye, Ear, Nose and Throat Infirmary has lost a good and wise friend; therefore, be it

Resolved, That the board and staff of the St. Louis Eye, Ear, Nose and Throat Infirmary do hereby express their deep sorrow at the death of their distinguished colleague and friend; and furthermore, be it

Resolved, that these resolutions be spread on the minutes of the infirmary and a copy transmitted to the family of the deceased.

Adopted at a joint meeting of the board and staff of the St. Louis Eye, Ear, Nose and Throat Infirmary, Sept. 22, 1915.

NOVOCAIN AND ITS DANGERS

For some time novocain has been used without much hesitancy, but the dilution of the drug has not always been consistently carried out. The result has been a number of danger points which have unexpectedly occurred. This drug differs perhaps in no wise from many other drugs applied to unknown individuals. Even a simple drug may have a disastrous effect, while a complex drug, like novocain, not infrequently is very insidious, and sometimes is harmful in individuals whose constitutions react promptly to poisons of any degree. Dentists have used novocain with a great deal of comfort to their patients, but occasionally it produces a sudden syncope, exhaustion, and what seems like a very typical heart failure; even when small doses are employed, the results may be very grave. It has been used in general surgery and applied very widely even in abdominal operations.

The success of novocain lies in the proper dilution and its distribution in the superficial tissues. There it seems to do less harm than when introduced into the mucous membranes. There have been very few reports of any complications when novocain has been injected under the skin, but there are a number of cases recorded in which novocain injected into the mucous membrane has produced a rather startling group of symptoms.

In the last issue of *The Journal of the American Medical Association*, an abstract from *Zentralblatt für Chirurgie*, Leipzig, for July 10, Morian declares that irritation of the kidneys is by no means an uncommon climax after the application of novocain

for local anesthesia. He declares that from 5 to 10 per cent. of cases in which he used it, albumin became evident in the urine in a few hours after the injection of novocain and could be detected afterward up to a maximum of forty-eight hours. The output of the urine does not seem to be materially modified, but sometimes it is irregular and scanty. Other formed elements are not infrequently present in the urine. The appearance of the albumin did not seem to be dependent on the amount of novocain used, nor did the site of the injection make any difference. Vomiting sometimes occurs several hours after an operation under novocain. Morian does not believe that the albuminuria which novocain caused was due to fluctuation of the blood pressure.

The treatment for novocain poisoning seems to call for a sudden and increased supply of blood to the brain; and for that reason patients are inverted and stood on their heads, tipped over to such a degree that the blood flushes the cerebral circulatory system. Stimulants like atropin and strychnia may be needed, and such other measures as serve to quicken the circulation. Hot packs or irritative massage are also helpful.

So far as we know no deaths have been reported other than perhaps the deaths that occur during surgical operations, where something else may be described as the cause, when as a matter of fact the novocain may be the real element of danger. Novocain is used in infiltration anesthesia in 0.25 to 0.5 per cent. solution, or it may be used in from 1 to 2 per cent. solution when it is instilled or injected. Merck gives the dose as up to 8 grains, that is, approximately 0.5 gram, but every one who uses this powerful local anesthetic must consider the possible dangers in individual cases.—*Jour. Minnesota Med. Assn.*

AMERICAN FIRST-AID CONFERENCE

OFFICE OF SECRETARY, 904 N. Charles St., Baltimore.

To the Editor:—We would appreciate it very much if you would give the inclosed resolution and question sheet space in your JOURNAL with notice that the secretary of the First-Aid Conference will welcome answers to the questions from any surgeons of experience in the treatment of accidental injuries, and that these answers will receive full consideration in the deliberations of the Board on First-Aid Standardization.

Our request of you is justified by the consideration that in order to obtain the prevailing opinion of the medical profession on a disputed matter and to crystallize this opinion into a safe guide for action, the cooperation of the medical press is indispensable.

If you give this matter notice in your JOURNAL, I would be glad to have a copy for our files.

Very sincerely yours,

JOSEPH C. BLOODGOOD, Secretary.

AMERICAN FIRST-AID CONFERENCE

FIRST MEETING, WASHINGTON, D. C.,
AUG. 23 AND 24, 1915

The following resolution was passed at this meeting: That the questions noted below be sent to the chief surgeons of railroads, mines and manufacturing, first, to be answered by them; second, that a copy of these questions be sent by the chief surgeons to their associate surgeons.

The object of these questions is to attempt to get the opinion and experience of a number of surgeons and to formulate them for publication.

Please answer each question on a separate sheet of paper and sign your name to each sheet:

1. What has been your experience with the most available first-aid package and dressing for small and large wounds?

2. What has been your experience with the immediate employment of antiseptics in accidental wounds; what antiseptic have you used, in what strength, and how applied? Have you employed tincture of iodine; if so, how and what have been the results?

3. What in your experience has been the most efficient and most readily applied method of fixation for injuries of the (a) upper and (b) the lower extremity?

4. Have you considered the construction of a stretcher, which, in addition to serving as a means of transportation of injured, will have appliances for the fixation of the upper and the lower extremity, somewhat along the lines of a Bradford splint or the Gihon naval splint?

5. Please state your views on some liquid ointment dressing which would be available for first aid in large wounds and burns with the object of preventing the usual dry-gauze dressing adhering to the wound and rendering subsequent dressings painless.

Please give these questions your personal attention, first, and mail your answers to the secretary, at the same time writing him and giving him the number of copies of these question sheets desired to mail to your associate surgeons.

JOSEPH C. BLOODGOOD, Secretary,
904 N. Charles St., Baltimore.

RESOLUTION ADOPTED BY THE AMERICAN FIRST-AID CONFERENCE

WASHINGTON, D. C., Aug. 24, 1915.

Your resolution committee has the honor to report that it has carefully considered the resolution which was committed to it and has redrafted it as follows:

WHEREAS, There is a great lack of uniformity in first-aid methods; in first-aid packages, and in other first-aid equipment; and in first-aid instruction, and

WHEREAS, Many of the aims of first aid are defeated thereby and needless suffering and expense incurred; therefore be it

Resolved, That this conference recommends to the President of the United States that he appoint a board on first-aid standardization, said board to consist of one officer each from the Medical Corps of the U. S. Army, the Medical Corps of the U. S. Navy, the U. S. Public Health Service, the American National Red Cross, the American Medical Association, the American Surgical Association and the Association of Railway Chief Surgeons of America; this board to deliberate carefully on first-aid methods, packages, equipment and instruction and to recommend a standard for each to a subsequent session of this conference to be called by the permanent chairman; the creation and maintenance of the said board to be without expense to the United States.

Your committee further reports that it has personally consulted the assistant solicitor of the treasury and he has given the opinion that there is no legal objection to the resolution or its purpose.

The committee has also personally consulted the secretary to the president and he has assured your committee that it is his personal opinion that the president will take favorable action in the premises.

Committee on Resolutions:

W. C. RUCKER, Asst. Surgeon General, U. S. P. H. S.
MAJOR ROBERT U. PATTERSON, M. C. U. S. Army.
Representing the Amer. Nat'l Red Cross.

W. L. ESTES, Chairman Committee on Fractures,
Am. Surg. Assn.

FIFTY FALSELY LABELED MEDICINES

Federal Courts Condemn Goods of Fine Many Patent
Medicine Manufacturers. Fifty "Patent
Medicines" Proceeded Against for
Fraudulent Claims as to
Curative Powers of
Products

WASHINGTON, D. C.

OFFICE OF INFORMATION,
U. S. Dept. of Agriculture.

More than half a hundred legal actions have been terminated successfully under the Sherley amendment to the Food and Drugs Act, which prohibits false and fraudulent claims as to the curative or therapeutic effects of drugs or medicines. Criminal prosecutions against the manufacturers were brought in twenty-five cases, but in thirty-one instances the falsely and fraudulently labeled medicines were seized while in interstate commerce. Claims made by the manufacturers for the curative powers of these preparations ranged from tuberculosis, smallpox and diphtheria to coughs, colds and scalp diseases. A number of other criminal prosecutions and seizures are pending in various federal courts throughout the United States because of alleged violations of the Sherley amendment similar to those which have already been tried. The officials charged with the enforcement of the Food and Drugs Act are of the opinion that the evils of the "patent medicine" business can be stopped only by the most drastic action.

It is pointed out that traffic in medicines for which false and fraudulent claims are made is not only an economic fraud of the worst kind, in that a worthless preparation that costs but a few cents is frequently sold for \$1 or more a bottle, but that health, and even life, is endangered by failure to secure the service of a physician in such serious diseases as tuberculosis, diphtheria, pneumonia and scarlet fever, until too late, because reliance may have been placed in the curative powers of some worthless preparation which is claimed to be a never-failing remedy. The deluded victim may not realize his danger until the disease has reached a stage too far advanced for even the ablest physicians to cope with it. Effective treatment depends in most cases on applying it during the early stages of the disease.

SUGGESTIVE NAME OF "FAMILY PHYSICIAN" FAILS TO SAVE THIS PREPARATION

The Houchens Medicine Company of Baltimore pleaded guilty to a charge that a preparation called "Family Physician" and shipped by them into interstate commerce was falsely and fraudulently labeled. Among the many diseases for which this medicine was recommended by the manufacturers in statements appearing on the labels and accompanying circulars were diphtheria, scarlet fever, typhoid fever, smallpox, bronchitis, neuralgia, croup and all diseases of the throat and lungs. The following quotations from the label, carton, or circular, are interesting: "The public is hereby assured that this is the genuine and original Family Physician. . . . For fever you need not give anything else but this medicine, it will keep the rash out itself. . . . For cases of smallpox take plenty and often. . . . Use freely. Give no hot teas, just give the medicine and what pimples are under the skin will come out, the rest will be carried off by the medicine. . . . Also a wonderful and positive remedy for dyspepsia, keeps measles out nicely, regulates the bowels without trouble, and by purifying the blood prevents your liability to disease."

Analysis of the product, which was claimed by the manufacturer to be effective in the treatment of so many virulent and contagious diseases, as well as a variety of minor ills, showed that it was a syrup con-

taining 19.2 per cent. nonvolatile matter, 8.9 per cent. alcohol, anise, and a vegetable cathartic drug. The government, therefore, charged that the medicine did not contain ingredients or medicinal agents effective for the relief and cure of the diseases which it was claimed to cure. The court imposed a fine of \$75.

REMARKABLE CLAIMS FOR DR. H. A. INGHAM'S VEGETABLE
EXPECTORANT NERVINE PAIN EXTRACTOR

A plea of guilty was entered by H. A. Ingham and Company of Vergennes, Vt., to the charge that statements and claims as to curative powers of a product called "Dr. H. A. Ingham's Vegetable Expectorant Nervine Pain Extractor" were false and fraudulent. An analysis of a sample of the product by the bureau of chemistry showed the same to contain alcohol, 86 per cent.; opium alkaloids, camphor, capsicum, and vegetable extractive matter. The government, therefore, alleged that the medicine did not contain ingredients or medicinal agents effective, as the labels or circulars asserted, to subdue raging fever, or to cure typhoid fever, lung fever, scarlet fever, rheumatic fever, cholera, dysentery, sunstroke, diphtheria, bleeding at the lungs, nervous exhaustion, or piles, or to prevent fits of apoplexy and epilepsy when coming on, or to heal without inflammation or suffering all wounds, sprains or burns, or to break up a felon, or to cure congestion of the lungs, pleurisy, fits of apoplexy, chronic rheumatism, paralyzed limbs, and croup.

It was also alleged by the government that the statements "for teething and restless children, it is not only safe and harmless, but positively beneficial; it agrees with the most tender child or feeble infant," were false and misleading in that they were of such nature as to mislead the purchasers into the belief that the article contained no harmful or poisonous ingredient, whereas, in fact it did contain morphin and other opium alkaloids of a poisonous and deleterious nature, such as might prove harmful and deleterious to the health of tender children and feeble infants, and other persons, if consumed by them. The court fined the defendant \$100.

SEIZED FOUR THOUSAND BOTTLES OF "FATHER JOHN'S
MEDICINE"

Four thousand and ninety-two bottles of "Father John's Medicine" were seized in Philadelphia, it being alleged in the libel that the labels on the bottles and on the pasteboard packages containing the bottles bore statements regarding the curative effects of the medicine that were false and fraudulent. Claims were made by the manufacturers for the efficacy of the medicine in the treatment of consumption, coughs, colds, croup, asthma, bronchitis, sore throat, whooping cough, pneumonia, catarrh, rickets, and a number of other ailments. A judgment of condemnation and forfeiture was entered, and it was ordered by the court that the product be delivered to Carleton and Hovey Company, Lowell, Mass., on payment of all the costs in the proceedings and the execution of a bond in the sum of \$5,000, to insure that the goods would not be sold unless truthfully relabeled.

JURY SAYS "GUILTY" FOR MISBRANDING "BAD-EM-SALZ"

A verdict of guilty was rendered against the American Laboratories, a corporation located at Philadelphia, for shipping into interstate commerce a product called "Bad-Em-Salz," which it was alleged was falsely and fraudulently labeled. An analysis of a sample of the product showed that it consisted of common salt, Glauber salt, baking soda, and a small amount of tartaric acid. It was claimed by the manufacturers that this preparation reproduced the medicinal properties of the great European springs famous for centuries for the cure of diseases of the stomach,

intestines, liver, kidneys, or bladder, and that it represented the medicinal agents obtained by the evaporating of the water from famous European springs. The government alleged among other things that these claims were false and misleading. It was also alleged that the statements in the circular indicating that the preparation contained ingredients or medicinal agents effective for dissolving gallstones, for the prevention of gastritis, for curing diabetes, for preventing or checking chronic inflammation of the kidneys, and for relieving catarrh of the bladder, were false and fraudulent. A fine of \$100 was imposed by the court.

LONG LIST OF OTHER MISBRANDED MEDICINES

The following list includes other preparations against which the government's charge that they were falsely or fraudulently labeled was sustained by the federal courts. Statements were made on the labels of, or on the circulars accompanying, the preparations intended to make the purchaser believe that the medicines were effective cures for a great variety of diseases for which they were recommended by the manufacturers or promoters. The main allegations of the government were upheld by the courts and judgment accordingly entered in connection with each of the following preparations:

Radam's Microbe Killer.
Hilton's Specific.
Smith's Agricultural Liniment.
Dr. Sullivan's Sure Solvent.
Russell's White Drops.
Stramoline.
Wild Cherry Pepsin.
Moreau's Wine of Anise.
Dr. Herman Koch's Brand Phosphate, Celery and Gin Compound.
Swissco Hair and Scalp Remedy.
Cod Liver Oil with Syrup of Tar.
Dr. Mozley's Lemon Elixir.
Sa-Yo Mint Jujubes.
Gray's Glycerine Tonic Compound.
Dr. Martel's Female Pills.
Quickstep, Frye's Remedy.
Seawright's Magnesian Lithia Water.
Hill's Aromatic Ext. Cod Liver Oil (Hollander-Koshland Co.).
Black's Pulmonic Syrup.
Tetterine.
Laxative Quinine Tablets.
Mrs. Joe Person's Remedy.
Maignen Antiseptic Powder.
Cranitonic Scalp Food-Hair Food.
Dr. David Kennedy's Cal-Cura Solvent.
Schenck's Pulmonic Syrup.
Keller's Flaxseedine.
Tutt's Pills.
Universal Rheumatic Remedy.
Green Mountain Oil.
Weber's Genuine Alpine Herb Tea.
Montague's Liniment.
Coe's Cough Balsam.
White Stone Lithia Water.
Kalamazoo Celery and Sarsaparilla Compound.
Quality Damiana Compound.
Dennis Eucalyptus Ointment.
Cassidy's 4X The Great Blood Purifier.
Porter's Antiseptic Healing Oil.
Ballard's Horehound Syrup Comp.
Dr. Shoop's Night Cure.
Dr. Shoop's Cough Remedy.
Dr. Shoop's Restorative.
Dr. Shoop's Twenty Minute Croup Remedy.
Rheumacide.
Rice's Mothers' Joy Salve.

Milam.
 Old Jim Field's Phosphate Dill and Gin.
 Stuart's Buchu and Juniper Compound.
 Ozomulsion.
 Jones' Break Up.
 Carswell's Liver Aid.
 Rogers' Consumption Cure and Cough Lozenges.
 Rogers' Inhalant.

PATTEN IN PINK WHISKERS

BY OPERATIVE No. 48

I

Because of the publicity given to the false claims for "Wine of Cardui" and exposures of the methods through which ailing women have been made the victims of quackery in the sale of this nostrum, John A. Patten of Chattanooga, Tenn., has instituted suit against *Harper's Weekly*, asking \$200,000 damages.

This article by a former Pinkerton detective, employed in connection with the suit, is interesting in its revelation of the methods being employed by Mr. Patten in constructing his case.

Probably but few, if any, of those readers who have been following the recent articles in *Harper's Weekly* regarding patent medicines, have imagined that Mr. Patten's Chattanooga Medicine Company were employing the Pinkertons to gather information to assist them in their suits against *Harper's Weekly* and *The Journal of the American Medical Association*. This is, nevertheless, true, and I was one of the Pinkerton operatives engaged in the work. It would appear that the patent medicine people had but little confidence in the merits of their suits, when they were filed, yet believed that the Pinkertons could build up a case for them that would stand the acid test of the courts.

However this may be, it is beside the point. I resigned my position with the Pinkertons after working for several weeks on this case, and I now intend to lay before the public, in this article, their manner of going after the "desired information," without divulging the least part of it. Indeed, Mr. Patten must consider it a valuable asset to him, as he expended thousands of dollars in its accumulation, although personally I do not see how it can aid him materially in any way.

About Nov. 15, 1914, I was instructed by Assistant Superintendent W. H. Smith of Pinkerton's Atlanta office to go to Athens, Ala., and there join Atlanta Operative No. 41, who, with his wife, Atlanta Operative No. 50, was residing in a house in Fairview, a residential section of Athens. They had been living there, as well as I remember, two weeks or possibly longer.

The primary object of my visit was to take down in shorthand, in a place of concealment, a conversation which was planned to take place between Operative No. 50 and Dr. A. L. Glaze, Jr., of Athens, who is secretary of the Limestone County (Alabama) Medical Society. The Chattanooga medicine concern believed that Dr. Glaze was in the full confidence of *The Journal of the American Medical Association*, they having filed their suit for damages against that publication.

Smith informed me that Operative No. 41 was posing as an insurance agent in Athens; that he and his wife had rented a house in Fairview, and were there supposedly for six months; that Operative No. 41 had made excellent progress, as he had succeeded in renting desk space in Dr. Glaze's office; that Operative No. 50 was to be confined to her bed with a female complaint, and, under this pretext, she planned to obtain from Dr. Glaze his views on Wine of Cardui, the suit and any other information of interest.

I proceeded to Athens and joined Operatives No. 41 and No. 50 at their home in Fairview. Operative No. 41 advised me that the work was progressing nicely. He was posing as a special agent of a prominent life insurance company, and had succeeded in having Dr. Glaze appointed medical examiner. He had in his possession a key to Dr. Glaze's office, and stated that he made a daily search of Dr. Glaze's desk and trash basket for letters or other documents bearing on the case in hand.

I was subsequently introduced to Dr. Glaze as Operative No. 41's first cousin. The operative told him that I was a traveling salesman, and was on a visit to him through the dull season of the year.

The doctor appeared to take a liking to me from the beginning. In a few days he and I were confidentially discussing Wine of Cardui and the lawsuit, as well as his own personal affairs and history. I was informed on more than one occasion by the Atlanta office that the client, E. A. Wheatley, general manager of the Chattanooga Medicine Company, was well pleased with my work.

Operative No. 41, however, was not so successful: He had established himself, but that was all. He was entirely too cautious. He seemed to fear that if he mentioned the subject to Dr. Glaze, his true connections would be suspected. He contented himself with trying to sell insurance, to firmly establish his pretext, and a surreptitious search of the doctor's office once a day.

The result was that he secured practically no information of interest. Nor could he ever decide that the time was ripe to carry out the plans for a conversation between Operative No. 50 and Dr. Glaze. He told me several times that he was afraid that I would cough or sneeze during the conversation and be discovered. Soon after Christmas, Wheatley lost patience with his efforts and requested that he be discontinued.

Operative No. 41 did succeed in becoming sick twice, on which occasions Dr. Glaze attended him, and the operative reported in detail as to his treatment.

To furnish Operative No. 41 with a plausible excuse for leaving Athens, the Atlanta office sent him a telegram signed, if I remember correctly, "Will," and stating that his mother-in-law was very ill. I was instructed by letter to remain in Athens under the pretext of looking after my "cousin's" insurance prospects. As he left the impression about town that he would return with his wife when her mother recovered, I paid the rent on the house in Fairview after they had gone, and also met the installment payments on the furniture as they fell due.

On the night before Operative No. 41's departure, he and I went to the office of Dr. Glaze about 10 o'clock, and secured the book containing the minutes of the Limestone County Medical Society. In doing this we were acting under instructions received from the Atlanta office. I kept watch at the door while my "cousin" concealed the book under his raincoat. We took it home and I sat up late into the night, copying its contents verbatim.

I remained at the house in Fairview for a few days after Operatives No. 41 and No. 50 had gone, and then secured a room at Dr. Glaze's home. I stayed there until about Jan. 28, 1915, when I was instructed by the superintendent of the Atlanta office to proceed to Chattanooga, Tenn., and join Assistant Superintendent Smith at the Reed House. I informed Dr. Glaze that I was going to Birmingham, Ala., for a few days' stay.

Right here I wish to say a word concerning Dr. Glaze. He is a gentleman through and through, and gave me his friendship whole heartedly. It was in daily betraying this friendship that I began to feel my first pangs of disgust at being a Pinkerton operative.

II

Arriving in Chattanooga, I went to the Reed House and there joined Assistant Superintendent Smith. With him was a stenographer from the Atlanta office. I accompanied Smith and the stenographer to the Patten Hotel to call on one Barron, known in Chattanooga as "the Westerner," who was posing as a Western millionaire. In reality he was Pinkerton Operative No. 55 of the Denver, Colo., office.

There was a great commotion going on within church circles in Chattanooga. Dr. C. H. Myers, it will be recalled, had been ousted from his position as pastor of the First Methodist Church, and had become a Congregational minister. He had established a new church on the third floor of the county courthouse, across the street from the First Methodist Church, and over a hundred of his flock had left that church to join him.

Barron was cultivating the acquaintance of Dr. Meyers, as he was suspected by the patent medicine people of being in league with the American Medical Association. Barron attended the meetings in the new church assiduously, and offered every aid in the way of encouragement and funds. He often joked with me about the "stir" that followed his unusually large contributions.

A conversation between Barron and Dr. Meyers was arranged for, to occur in Barron's room at the hotel, during which the stenographer and I were to be concealed in the closet, to take it down in shorthand.

Dr. Meyers unsuspectingly fell into Barron's trap and came to his room that afternoon. The stenographer and I, in the closet, took down the conversation that ensued. Practically all that was said by Dr. Meyers has since appeared in the *Chattanooga Times*, over Barron's signature. Barron drew out Dr. Meyers by alleging to have overheard certain stories about him, but I am sure that if Dr. Meyers had been talking to Wheatley himself, he would not have worded his answers to the questions differently.

When Dr. Meyers had gone, the stenographer and I returned to the Reed House, and began transcribing our notes. Wheatley called on us early the next morning, while we were still at work in Smith's room, as he was very anxious to learn what had been said. We were also visited by Barron the same morning, and another operative, a man from Atlanta, who, Smith informed me, was working among the druggists in Chattanooga, under a pretext.

I was later instructed by Smith to go to the office of Mr. Newell Sanders, an ex-United States senator, who was also suspected by the patent medicine people of being in league with the American Medical Association. Smith told me that if I did not succeed in obtaining a position, I was to make an exact mental diagram of Mr. Sanders' offices, and, on my return to the Reed House, to transmit this diagram to paper. He urged that it was very important that I carefully note the exact location of the windows, doors, files, desks, etc.

During my stay in Chattanooga Barron and Smith were planning a trip to Chicago. Barron secured from Dr. Meyers a letter of introduction to a prominent official of *The Journal of the American Medical Association*, and Smith was to pose as a magazine writer.

I returned to Athens about February 1, and reoccupied my room at Dr. Glaze's. I remained with him until about February 20, when I received a letter from the superintendent at Atlanta, instructing me to return to that city.

In his letter, the superintendent asked me to take the key to Dr. Glaze's desk to Decatur, Ala., a nearby town, and have a duplicate made. As the doctor was moving his office to his home, on the day I received this letter, I carried the key to his home to Atlanta,

and was instructed by the superintendent to have a duplicate made. I did this, and then mailed the key to Dr. Glaze, with a letter regretting that I had forgotten to give it back to him before leaving Athens. The duplicate I turned over to the superintendent of the Atlanta office, who thought that it might be needed in the future.

III

I worked in the Atlanta office of the agency for a few days, and learned that there were two New Orleans operatives working on the case in Chattanooga. The stenographer went to Chattanooga again to take down a conversation between one of these operatives and a man who had information to sell to any one who might be willing to pay for it. Atlanta Operative No. 12 was also in Chattanooga "shadowing" Dr. Meyers.

I then went back to Chattanooga and registered at the Reed House, but shortly afterward rented a room on Pine Street. I had instructions to obtain tuition in chemistry and pharmacy from Dr. Robert C. Bicknell, who had at one time been chief chemist for the Chattanooga Medicine Company. Wheatley suspected that Dr. Bicknell might be supplying information to *Harper's Weekly* and the American Medical Association. He requested that I search Dr. Bicknell's papers, and also get his opinion of the suits and the officials of the Chattanooga Medicine Company.

I followed these instructions, and took lessons from Dr. Bicknell for two weeks. He told me that Wine of Cardui was a fraud. According to Dr. Bicknell, Wheatley was formerly connected with a large advertising concern in St. Louis, which has a branch office in Chattanooga, and later entered the advertising field in Chattanooga for himself, under the firm name of The E. A. Wheatley Advertising Company. Dr. Bicknell stated that he handled the Wine of Cardui advertising, but finally went into bankruptcy, and the St. Louis concern took over his business.

I attended Dr. Meyers' church in Chattanooga, at Wheatley's request, to take down anything that might be said against Mr. Patten. It was about this time that the Barron articles began to appear in the *Times*. Operative No. 12 had returned to Atlanta, but, at Barron's suggestion, he was telegraphed for by Wheatley, to return and resume his "shadow" of Dr. Meyers. Operative No. 12 shadowed Dr. Meyers for several days, as Wheatley suspected that he would "connect" with Mr. Sanders.

Barron, Wheatley and I were in constant communication during this interval. The object of Barron's cards in the newspapers was to lead Dr. Meyers into a newspaper controversy.

Barron finally decided to leave the city, thinking that Dr. Meyers would not dare to reply to his cards if he remained in Chattanooga. He informed various persons about the hotel that he was returning to the West, but in reality he went to Atlanta, to be near at hand should Dr. Meyers reply. I bought his ticket to Atlanta, and on my return to that point I met him in the office of the Pinkertons.

I went to Athens again about March 4 and Dr. Glaze invited me to occupy my old room at his home. Wheatley wanted to know what Dr. Glaze had learned in my absence. I remained in Athens until about April 3. The doctor was as cordial and friendly as ever, and asked me to meet him in Birmingham April 21 to 24, during the convention of Alabama physicians. I promised to see him if I should happen to be in Birmingham on those dates.

It goes without saying that I did "happen" to be there. We had a great time in Birmingham; we were together a great deal, but I did not exert myself to secure any information from him. It was during this visit that I determined to sever connection with the Pinkertons.—*Harper's Weekly*, Oct. 2, 1915.

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SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
 Webster County Medical Society, Jan. 1, 1915.
 Sullivan County Medical Society, Jan. 2, 1915.
 Cooper County Medical Society, Jan. 16, 1915.
 Camden County Medical Society, Feb. 2, 1915.
 McDonald County Medical Society, Feb. 12, 1915.
 Daviess County Medical Society, Feb. 22, 1915.
 Christian County Medical Society, March 22, 1915.
 Ste. Genevieve County Med. Soc., March 24, 1915.
 Atchison County Medical Society, March 25, 1915.
 Benton County Medical Society, March 26, 1915.
 Schuyler County Medical Society, March 30, 1915.
 De Kalb County Medical Society, April 12, 1915.
 St. Charles County Medical Society, April 14, 1915.
 Barton County Medical Society, April 15, 1915.
 Carroll County Medical Society, April 17, 1915.
 Platte County Medical Society, April 19, 1915.
 Clark County Medical Society, April 19, 1915.
 Audrain County Medical Society, April 21, 1915.
 Putnam County Medical Society, April 24, 1915.
 Grundy County Medical Society, April 26, 1915.
 Henry County Medical Society, May 4, 1915.
 Franklin County Medical Society, May 6, 1915.
 Ray County Medical Society, May 13, 1915.
 Howell County Medical Society, July 3, 1915.
 Lawrence-Stone County Med. Soc., August 25, 1915.
 Laclede County Medical Society, July 2, 1915.
 Holt County Medical Society, July 19, 1915.
 Newton County Medical Society, July 21, 1915.
 Scotland County Medical Society, Oct. 16, 1915.

ADAIR COUNTY MEDICAL SOCIETY

The Adair County Medical Society held its regular monthly meeting on October 7 in the offices of Drs. Martin and Parrish, Kirksville, with the following members present: Drs. J. W. Martin, A. W. Parrish, E. C. Callison, J. S. Gashwiler, M. E. Derfler, E. S. Quinn and B. B. Parrish. The minutes of the previous meeting were read and approved. After the regular order of business was disposed of, the scientific program was taken up.

Dr. M. E. Derfler read a paper on "Toxemia of Pregnancy." The paper demonstrated careful preparation and was an excellent review of the literature on this subject. The discussion was opened by Dr. E. S. Quinn and followed by all the members with the presentation of their respective case histories. The discussion brought out many interesting and helpful points although the theory of each was practically the same.

There being no further business, the meeting adjourned to meet November 4.

B. B. PARRISH, M.D., Reporter.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at Dr. C. R. Woodson's Sanatorium, Thursday evening, September 2, Dr. J. F. Owens in the chair. This was a social meeting with 114 members present.

The regular business was set aside and the reading of the minutes dispensed with.

Addresses were made by the following members and guests: Drs. Charles Geiger, Bansbach, Gebhart, Ballard, Beck, Potter, Jacob Geiger, Pitts, Woodson and Randolph.

Our president, Dr. J. F. Owens, in his remarks, emphasized the desirability of a consolidation of the various medical societies in our city, and particularly indicated a consolidation of the various societies under the jurisdiction of the county society. This view was apparently indorsed by every member present.

Meeting of September 15

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, September 15, Dr. J. F. Owens in the chair. There were nineteen members present.

Applications for membership in our society were read from Drs. Prem J. Ross and Horace W. Carle and referred to the board of censors for investigation.

An informal discussion regarding the possibility of a consolidation with the various medical and surgical societies in our county was indulged in, but no definite action was decided on.

On motion of Dr. C. R. Woodson, seconded by Dr. Ladd, the following members were asked to contribute a paper at the next meeting of our society: Dr. C. A. Good, paper to be discussed by Dr. O. G. Gleaves; Dr. C. H. Wallace, paper to be discussed by Dr. W. T. Elam.

The secretary was instructed to send an application blank to Dr. Werner at Fifteenth and Penn.

An interesting paper was read by Dr. Caryl Potter entitled "Primary Sarcoma of the Large Intestine." The paper was discussed by Drs. Bell, Wallace, Elam and Dandurant.

On motion, the society adjourned.

Meeting of October 6

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, October 6, with forty-one members present. The president, Dr. J. F. Owens, called the meeting to order.

The applications for membership of Drs. Horace W. Carle and Prem J. Ross, having received their second reading and having been duly indorsed by the board of censors, were voted on separately and they were duly elected to membership in the society.

Dr. A. S. J. Smith, formerly a member in the Platte County Medical Society, presented a letter from the secretary of the above society indorsing Dr. Smith's standing and requesting affiliation with the Buchanan County Medical Society. His application was voted on and the doctor duly elected a member. Application for membership was received from Dr. Charles H. Werner of St. Joseph, which was read and referred to the board of censors.

A letter from the secretary of the Missouri Valley Medical Society requesting an expression from the members of this society in regard to holding the next meeting of the Missouri Valley in St. Joseph, was read, and on motion by Dr. Jacob Geiger, seconded by Dr. Elam, the secretary was instructed to extend the Missouri Valley Medical Society an invitation to hold their next meeting in St. Joseph.

The question of offering the services of the members of this society to the Y. W. and Y. M. C. A.'s for a course of Red Cross lectures, was freely discussed, and the matter was left in the hands of the regular committee appointed for that purpose.

The program committee requested permission to expend not over \$4 for mailing out a proposition outlining a program for the coming sessions. The request was allowed.

Dr. W. L. Solmon, federal drug inspector, having been called to St. Louis, was not present to deliver his address as per program.

Dr. F. G. Beard read an interesting paper on "Scarlet Fever." This was discussed by the following members: Drs. J. H. Sampson, C. A. Good, M. J. Farber, R. Willman, Jacob Geiger and T. J. Lynch.
W. F. GOETZE, M.D., Secretary.

JOHNSON COUNTY MEDICAL SOCIETY

The Johnson County Medical Society met in regular session in Warrensburg, Tuesday, October 12. Quite a number were present to enjoy the "Symposium on Constipation." Some new thoughts were ventured and ideas suggested which if heeded will prove valuable to the general practitioner who is constantly having this baneful affliction to treat. The feeling seems to be quite general that when physicians are able to successfully treat and eliminate the cause of constipation a vast number of ills which are now menacing the lives of people will have been eradicated. It was unanimously agreed that drugs should not be relied on entirely, but that a studious, scientific and conservative use be made of mechanotherapy and surgery in the treatment of advanced cases, but that hydrotherapy, dietetics, habit and exercise properly regulated were the chief means of prevention and relief.

Dr. H. S. Crawford of Harrisonville, the councilor for the Fifteenth District, "dropped in" to pay us a visit. We are always glad to see Dr. Crawford, as he brings his message of official capacity in a helpful, encouraging manner that makes us feel like saying very heartily, "Come again."

O. B. HALL, M.D., Secretary.

LACLEDE COUNTY MEDICAL SOCIETY

The Laclede County Medical Society met in the parlors of the Laclede Hotel at Lebanon, September 13. The meeting was called to order by the president, Dr. J. L. Benage, of Lebanon. The secretary, Dr. J. A. McComb, being absent, Dr. T. B. Herbert was appointed secretary pro tem. After the transaction of some business, the regular scientific program was taken up.

Dr. O. C. Benage of Conway read a paper on "Constipation." The paper was very interesting. Among the several important phases taken up was the importance of physicians taking time to learn the cause of the constipation before prescribing a remedy. The discussion was entered into very enthusiastically by every member present.

Dr. T. B. Herbert of Lebanon read a paper on "Asthma." The paper was very instructive. He laid special emphasis on the importance of a thorough examination for pent-up secretions and pus foci in the mouth, nose and accessory cavities, and where such conditions are present the treatment should be to establish the best possible drainage and the use of autogenous vaccines, since late reports have been very encouraging in prompt relief and cure from the use of such vaccines.

The meeting was not very largely attended, but the interest manifested by those present made the meeting a very helpful and successful one.

T. B. HERBERT, M.D., Secretary pro tem.

MONROE COUNTY MEDICAL SOCIETY

The Monroe County Medical Society met Thursday, October 5, at Paris, in its second annual clinical meeting. The guests of the society who conducted the clinics were Drs. C. C. Conover, Kansas City, and Jules M. Brady, St. Louis. The members present were Drs. Wm. T. Bell, Stoutsville; W. S. Harwood, Monroe City; C. H. Dixon, Holliday; G. M. Ragsdale, Fred M. Moss, H. G. Payne and M. C. McMurphy, Paris. Members of Randolph County present, Drs.

C. B. Clapp, C. K. Dutton, R. D. Streeter, S. P. Towles, E. W. Shrader, Thomas Fleming and L. A. Bazan, Moberly, and Dr. J. E. Brown of Perry, Ralls County. Other visitors, Drs. Reed of Florida, and John N. Southern of Monroe City.

The meeting last year was such a success, and after the successful clinical meetings held in Randolph and Macon counties, we decided to make an annual affair of it. Perhaps we may follow the example of Macon County and hold two "annuals" in one year. This meeting was so much of a success that one of our members who has not been very regular in attending the monthly meetings, and this being his first of this kind, said: "When are we to have another like this? I do not know when I ever enjoyed a day so much." The meeting was held in the assembly room of the Dulaney Memorial Library Building, an ideal place for such a gathering.

Dr. Jules M. Brady of St. Louis had charge of the children's clinic and good material for his specialty was on hand. His demonstrations were very instructive, practical and interesting. We were especially impressed with the skilful manner in which Dr. Brady handled the cases and his practical suggestions for correcting the conditions observed. It was good to see men, some who had been practicing a quarter of a century or more, with notebooks taking down the points brought out, especially in infant feeding, which Dr. Brady showed us is a subject of the highest importance to the man in general work.

Dr. C. C. Conover of Kansas City was a "come-back" of our own solicitation, he having been with us in our last meeting. All were so well pleased with his work at that time that he was urged to be present at this meeting. He likewise was furnished an abundance of clinical material of various diseases, all of which he handled in a skilful manner.

At 1 o'clock luncheon was served by the ladies of the Christian Church, which was much enjoyed by all.

As the time was completely taken up until train time, no regular business was attended to, but will be handled at the next regular meeting.

C. H. DIXON, M.D., Councilor.

JOINT MEETING OF THE RALLS AND THE MARION COUNTY MEDICAL SOCIETIES

A joint meeting of the Ralls and the Marion County Medical societies was held under the large shade trees near the Spalding Springs Hotel, Aug. 19, 1915. The meeting was called to order, following a splendid dinner enjoyed at the hotel, and Dr. William T. Waters, New London, acted as secretary. It was the annual meeting of the societies and was attended by about seventy-five persons.

Dr. Richard Schmidt of Hannibal read a paper on "The Complications of Appendicitis," with presentation of a case.

Dr. W. D. Birney of Center read a paper on "The Costs of Medicine," in which he showed how the price of medicines has advanced since the war started in Europe.

Hon. Drake Watson of New London, Ralls County's representative in the state legislature, gave a talk on "State Medicines."

Dr. E. T. Hornback of Hannibal read a paper on "Waldeyer's Ring."

Dr. T. J. Downing of New London, president of Ralls County Medical Society, read a paper on "Alcoholics in Medicine." A paper was also read by Dr. Waters.

Following the program, an open discussion of medical cases and other business pertaining to the society was taken up.

On motion, the meeting adjourned.

WILLIAM T. WATERS, M.D., Acting Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in regular session at Lancaster, September 16, with the president, Dr. W. A. Potter, in the chair. The following members were present: Drs. W. F. Justice, B. B. Potter, W. A. Potter, J. H. Keller and J. B. Bridges.

The minutes of the previous meeting were read and approved. There were no papers read, but a number of subjects and cases were reported and discussed.

The following resolutions were read and adopted:

WHEREAS, The grim reaper Death has claimed one of our members and co-workers, Dr. Elmer L. Mitchell, who died Sept. 11, 1915; and

WHEREAS, The society has lost a faithful and useful member, his family a devoted husband and father, and the community an upright and honored physician and citizen; therefore, be it

Resolved, That we deeply deplore his loss and extend to the family and friends our deepest and most sincere sympathy; and be it further

Resolved, That a copy of these resolutions be spread on our minutes and a copy sent to the bereaved family.

B. B. POTTER,
J. H. KELLER,
J. B. BRIDGES,
Committee.

The next meeting will be held in Lancaster, Tuesday, Oct. 19, 1915.

On motion, the society adjourned.

J. B. BRIDGES, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies."

MERCURIALIZED SERUM, MULFORD.—A solution of mercuric chloride in normal horse serum diluted with physiologic sodium chloride solution. It is proposed for the treatment of syphilis, particularly the cerebrospinal type. It is supplied as:

MERCURIALIZED SERUM, MULFORD, No. 1.—One 30 c.c. ampule containing the equivalent of 1.3 mg. ($\frac{1}{50}$ gr.) mercuric chloride with rubber tube and intraspinal needle.

MERCURIALIZED SERUM, MULFORD, No. 2.—One 30 c.c. ampule containing the equivalent of 2.6 mg. ($\frac{1}{25}$ gr.) of mercuric chloride with rubber tube and intraspinal needle.

MERCURIALIZED SERUM, MULFORD, No. 3.—A package of ten 30 c.c. ampules each containing the equivalent of 1.3 mg. ($\frac{1}{50}$ gr.) of mercuric chloride with rubber tube and intraspinal needle.

MERCURIALIZED SERUM, MULFORD, No. 4.—A package of ten 30 c.c. ampules each representing 2.6 mg. ($\frac{1}{25}$ gr.) mercuric chloride with rubber tube and intraspinal needle.

MERCURIALIZED SERUM, MULFORD, No. 5.—Eight c.c. mercurialized serum, Mulford, containing the equivalent of 22 mg. ($\frac{1}{3}$ gr.) of mercuric chloride in a syringe graduated in fourths, with needle.

MERCURIALIZED SERUM, MULFORD, No. 6.—A package of ten syringes, each containing 8 c.c. liquid which represents 22 mg. ($\frac{1}{3}$ gr.) of mercuric chloride. H. K. Mulford Company, Philadelphia, Pa. (*Jour. A. M. A.*, Oct. 2, 1915, p. 1185).

RADIO-REM, OUTFIT No. 4.—An apparatus designed for the production of radio-active drinking water by

the action of radium sulphate contained in terra cotta plates. It consists of two plates contained in 250 c.c. bottles; when the bottles are filled with water the two plates impart about 1.8 microcurie (5,000 Mache units) to the water in twenty-four hours. For action, uses and dosage refer to the article on radium in New and Nonofficial Remedies. Schieffelin & Co., New York (*Jour. A. M. A.*, Oct. 9, 1915, p. 1281).

HISTAMINE HYDROCHLORIDE.—The hydrochloride of the base beta-iminazolyethylamine (histamine). It is a valuable reagent for the standardization of pituitary preparations.

IMIDO, ROCHE.—A name applied to histamine hydrochlorid.

AMPULES IMIDO, ROCHE.—Each ampule contains 1.1 c.c. of an aqueous 1 in 1,000 solution of Imido, Roche (1 c.c. contains 1 mg.). Hoffmann-LaRoche Chemical Works, New York City (*Jour. A. M. A.*, Oct. 16, 1915, p. 1367).

BETANAPHTHYL SALICYLATE.—The salicylic acid ester of betanaphthol. It passes the stomach unchanged, but is split into its constituents in the intestinal tract. It is believed to act as an intestinal antiseptic and to act in a similar way in the bladder. It is said to be useful in intestinal fermentation, catarrh of the bladder, rheumatism, etc. Mallinckrodt Chemical Works, St. Louis, Mo. (*Jour. A. M. A.*, Oct. 30, 1915, p. 1553).

BETOL.—A name applied to Betanaphthyl salicylate (which see). Merck & Co., New York (*Jour. A. M. A.*, Oct. 30, 1915, p. 1553).

PROPAGANDA FOR REFORM

IODUM MILLER.—The A. M. A. Chemical Laboratory reports that Iodum-Miller was found to be essentially a solution of iodine and potassium iodide in glycerin containing 1.68 per cent. of free iodine. The Council on Pharmacy and Chemistry reports that Iodum-Miller was not eligible for New and Nonofficial Remedies because incorrect statements are made in regard to its composition; because unwarranted therapeutic claims are made for it; and because the application of a trade name to a simple solution of iodine is not to be countenanced (*Jour. A. M. A.*, Oct. 2, 1915, p. 1202).

IOD-IZD-OIL (MILLER'S).—Analysis in the A. M. A. Chemical Laboratory indicated Iod-Izd-Oil (Miller's) to be a simple solution of iodine in liquid petrolatum containing, not 2 per cent. of iodine, as claimed, but only 0.42 per cent. The Council on Pharmacy and Chemistry found the preparation ineligible for New and Nonofficial Remedies because the composition is not correctly stated and because the application of a trade name to a simple preparation of this sort is irrational (*Jour. A. M. A.*, Oct. 2, 1915, p. 1202).

HEXA-CO-SAL-IN.—Hexa-Co-Sal-In (Hexa-Co-Sal-In Company, Red Bank, N. J.) is advertised as "a condensation product of familiar composition" and that it is "colchi-magnesium salicylate with anhydrous hexamethylenamin." An examination made by the A. M. A. Chemical Laboratory showed that Hexa-Co-Sal-In is a simple mixture of hexamethylenamin, magnesium salicylate and some colchicum preparation. The Council on Pharmacy and Chemistry reports that the statement of the composition of this preparation is false; that unwarranted therapeutic claims are made for it and that the mixture is unscientific (*Jour. A. M. A.*, Oct. 2, 1915, p. 1203).

THE SOY BEAN.—The soy bean is of medical interest: (1) because it contains the enzyme, urease, which converts urea into ammonia and carbon dioxide and hence is used to estimate urea in urine; and (2) because soy bean products have been recommended as foods for diabetics. Street and Bailey of the Connecticut Agricultural Experiment Station, report that

although the soy bean contains about 25 per cent. total carbohydrates, only about 8 per cent. composed of sugar, starch and dextrin, may be considered objectionable in a strict diabetic diet. Thus the sugar-forming carbohydrates contained in soy beans fall well within the limit of 10 per cent. regarded as safe for diabetics (*Jour. A. M. A.*, Oct. 16, 1915, p. 1372).

SOMNOFORM.—This was originally composed of ethyl chloride 60 per cent., methyl chloride 35 per cent. and ethyl bromide 5 per cent. Now it is said to contain but 1 per cent. ethyl bromide. Like ethyl chloride, Somnoform has been used as a substitute for nitrous oxide before ether anesthesia and for short operations, but has been mostly used by dentists for extractions. It is doubtful if the mixture has any advantage over ethyl chloride. The mortality is less than that of chloroform, but twice that of ether and four times that of nitrous oxide (*Jour. A. M. A.*, Oct. 16, 1915, p. 1391).

SOME "PATENT MEDICINES" FOR EXTERNAL APPLICATION.—The following statements of composition is indicated by the reports of various state boards of health, the government chemists and the A. M. A. Chemical Laboratory: Amarol, a "complexion beautifier," is composed of Epsom salt 95 per cent. and borax 5 per cent. Anti-Freckle Lotion (Gustin's) contains mercuric chloride 1.5 per cent., alcohol 2 per cent. and water 96.5 per cent. Calocide, for "foot trouble," is sodium chloride 22.44 per cent., borax about 37.58 per cent., alum about 39.35 per cent., tannin small amounts. Cerol, which "cleans and clears the skin," is boric acid, stearic acid and perfume. Clearola, which will "whiten the skin," is sulphur. Cuticle Acid, to "remove dead skin," is alcohol 10 per cent. and oxalic acid 2 per cent. Derma-Royale for skin affections, is a dilute alcohol-glycerin solution with small amounts of camphor, myrrh, benzoin and possibly other aromatics in suspension. Eptol, a wrinkle remover, is essentially borax 37 per cent., soap and stearic acid 63 per cent. Fatoff was found to be essentially soft soap. Gloriot Balm, a vanishing toilet cream, is composed of stearic acid, soap and borax 23.7 per cent., water 76.3 per cent. Gloriot Glowene, said to be a substitute for soap, is soft soap. Zemo, for eczema, pimples, dandruff and similar affections, appeared to be a watery-alcoholic solution containing methyl salicylate, thymol, borax, tannic acid, glycerin, menthol and a phenol-like body (*Jour. A. M. A.*, Oct. 16, 1915, p. 1365-7).

LACTOPEPTINE AND ELIXIR LACTOPEPTINE.—Lactopeptine is sold under the claim that it contains pepsin, diastase, pancreatin, lactic acid and hydrochloric acid. In 1907 the Council on Pharmacy and Chemistry reported that Lactopeptine was practically inert—"essentially a weak saccharated pepsin," devoid of tryptic activity. An examination made by the Council in 1913 confirmed the previous findings. Nearly four months after publication of the last report, the manufacturers protested against the report claiming that Lactopeptine possessed pancreatic activity and contained "loosely combined" hydrochloric acid. The Council now reports that an examination of the market supply demonstrated that a few recently manufactured specimens showed slight (therapeutically negligible) tryptic activity, but that most showed none; the amount of hydrochloric acid was insignificant. Again declaring Lactopeptine and Elixir Lactopeptine ineligible for New and Nonofficial Remedies, the Council points out that, whatever the tryptic activity of the mixture, it is therapeutically useless. Mixtures of pepsin and pancreatin are irrational. The two substances are not indicated in the same conditions nor can they act together. Under physiologic conditions such mixtures are chemically impossible. In a liquid medium the two substances destroy each other (*Jour. A. M. A.*, Oct. 23, 1915, p. 1477).

A THERAPEUTIC ABSURDITY.—Lactopeptine, whether in the form of an elixir, powder or tablets, is a therapeutic absurdity. Even if fresh specimens of the powder, possessing slight tryptic activity, have any advantage over old ones, there is no way of telling which the patient is likely to get, for the trade packages of Lactopeptine are undated. In liquid preparations like Elixir Lactopeptine, pepsin and pancreatin destroy each other (*Jour. A. M. A.*, Oct. 23, 1915, p. 1466).

THE N. F. IMITATION OF ELIXIR LACTOPEPTINE.—Nearly forty years ago the essential worthlessness of Lactopeptine was brought to the attention of the pharmaceutical profession. In spite of this knowledge the pharmacists have included imitations of Lactopeptine and Elixir Lactopeptine in the National Formulary under the titles Compound Powder of Pepsin and Compound Digestive Elixir. The *N. A. R. D. Journal*, devoted to the business rather than the professional side of pharmacy, defends the Compound Digestive Elixir on the ground that "physicians keep right on prescribing it." The pharmaceutical profession should consider that pharmacists will in the end lose the confidence of the medical profession and the public by the tolerance of worthless pharmaceuticals (*Jour. A. M. A.*, Oct. 23, 1915, p. 1467).

CARDUI, THE STORY OF A NOSTRUM.—*Harper's Weekly* (October 23) traces the growth of the Wine of Cardui business. The author, stated to have been employed by the manufacturers, denies that the nostrum will perform the many wonders claimed for it by the manufacturers, and says that there is one miracle that Cardui can perform—it can make money (*Jour. A. M. A.*, Oct. 23, 1915, p. 1466).

CAMPHOR, NATURAL AND SYNTHETIC.—Though having the same chemical composition, natural camphor is levorotatory while synthetic is optically inactive, it being a mixture of levorotatory and dextrorotatory molecules. Synthetic camphor, used externally and in moderate doses internally, has been reported to have the same effects as natural camphor. The evidence is however unsatisfactory. The natural product being readily obtainable, there is no warrant for the therapeutic use of synthetic camphor until more conclusive evidence is at hand (*Jour. A. M. A.*, Oct. 30, 1915, p. 1555).

BOOK REVIEWS

MICROBES AND MEN. By Robert T. Morris. To-Morrow's Topics Series. Octavo of 550 pp. Garden City, New York. Doubleday, Page & Co. Net \$2.00.

DOCTORS VERSUS FOLKS. By Robert T. Morris. To-Morrow's Topics Series. Octavo of 365 pp. Garden City, New York. Double-day, Page & Co. Net \$2.00.

A SURGEON'S PHILOSOPHY. By Robert T. Morris. To-Morrow's Topics Series. Octavo of 575 pp. Garden City, New York. Doubleday, Page & Co. Net \$2.00.

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ORIGINAL ARTICLES

FACTORS THAT MAKE FOR BETTER RESULTS IN CRANIAL SURGERY*

ERNEST SACHS, M.D.
ST. LOUIS

Conditions that require surgical attention have increased to such an extent that surgeons have had to specialize. Naturally, too, they have devoted their energies more to those fields of surgical endeavor which give promise of brilliant results and have been somewhat chary about devoting time and energy to work which yields brilliant results less frequently. Such a field is neurological surgery, and when we consider the progress that has been made in the last years in the handling and treating of intracranial cases, it seems worth while to consider for a few moments the causes of this progress and how further gains can be made.

Most important of all is early recognition of intracranial lesions, and in considering this we must remember that the symptoms which the textbooks mention as the cardinal and classical symptoms of tumor are some of them, or all, frequently absent, or at times really not the earliest symptoms—headache, projectile vomiting, and choked disk.

Headaches are often not very severe, and in children are not infrequently entirely absent. This is due to the spreading of the sutures as the intracranial pressure increases and the consequent relief of pressure. In adults, if the tumor replaces tissue instead of displacing tissue, there may be no headache. Vomiting does occur at times, but any projectile character to it is, in my experience, a myth; of greater value and more characteristic is vomiting without nausea. Choked disk does occur and also other eye symptoms, all of which are among the most important diagnostic signs we have. Unfortun-

ately, the ophthalmoscope is a much neglected instrument and for this reason in many cases valuable time is lost. Since the invention of the electric ophthalmoscope, this instrument fortunately has been brought into more general use.

There are other signs of intracranial pressure which are of much value, but to which little attention is paid. Yawning occurs frequently with intracranial pressure; loss of sexual power, or in women cessation of menses. Focal or jacksonian convulsions, beginning with various sorts of auras, often are the first evidence of intracranial trouble. I want to emphasize, however, that many convulsions begin with some sensory phenomenon—tingling in an extremity, a peculiar taste or smell, and at other times unusual sounds or visual phenomena. Such an onset may be the clew we must follow in localizing the lesion, and no symptom should be considered so insignificant as to pass unnoticed. A few illustrations of these points may be of value. A boy had been complaining of epileptic convulsions, the onset of which he always became aware of by a peculiar visual disturbance he had noticed—flashes of light and colored balls which always appeared on one side—evidently a visual disturbance arising from the cortical center for vision in the occipital lobe. On further close questioning, it turned out that whenever he had this visual disturbance, he also noticed a peculiar smell and taste. From this it was evident that the seat of the trouble, instead of being in the occipital lobe, was located at a point where the visual, taste, and smell fibers came together, namely, in Wernicke's field. To reach this region and remove the tumor, the operation had to be performed in a very different region than if the trouble had been in the occipital lobe.

Another patient was said to have jacksonian epilepsy, beginning in his face on one side, but after observing an attack I found that before the onset the patient noticed a peculiar odor—blood. This sensory aura was the important guide. Had we contented ourselves with the

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

motor phase of the convulsion we would not have found the tumor, which was located in the temporal lobe and not in the pre-Rolandic area, as suggested by the convulsive movements.

One more point of great importance is to get the sequence of the developing symptoms, for the first focal symptom indicates where the

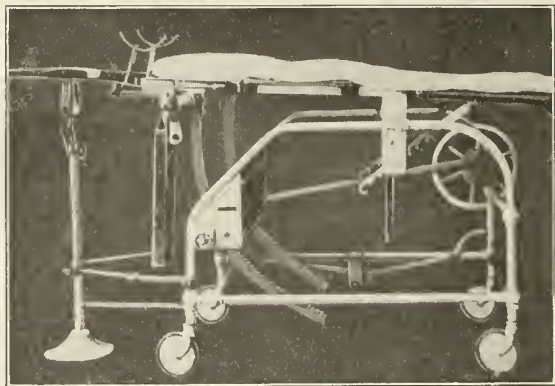


Fig. 1.—Table with cerebellar attachment, showing support for patient's head and shoulders, as well as wire screen, over which a sheet is draped so that the anesthetist is excluded from the field.

trouble first makes its appearance. Thus, if a patient starts with intense pain in the distribution of the superior maxillary division of the fifth nerve and after involvement of all these

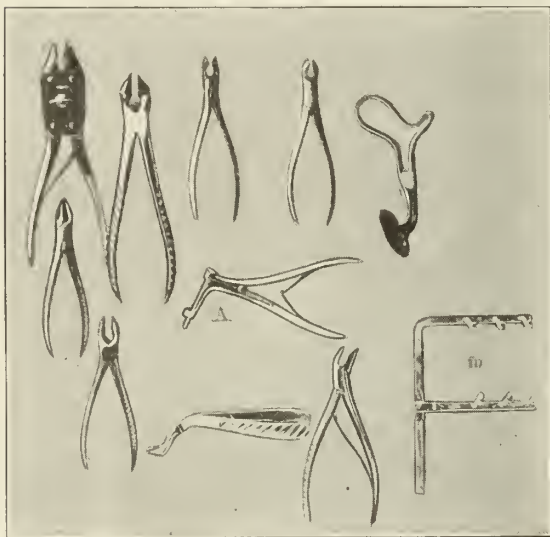


Fig. 2.—Various shaped forceps specially designed to make the work about the foramen magnum. A, Arthur's forceps for enlarging a laminectomy wound laterally. m, Self-retaining retractor for laminectomy.

branches develops paralysis of the muscles of mastication supplied by the motor branch of the fifth nerve, and besides has some general intracranial pressure phenomenon, we can be certain we have a new growth of the Gasserian ganglion, but if the fifth nerve becomes involved

secondarily we are justified in concluding the disease started elsewhere.

The two other factors in progress are both concerned with the operative phase of this work:

These cranial operations to be successfully carried out require a trained corps of assistants and an expert anesthetist. Both of these are indispensable. The anesthesia is of vital importance. Cranial cases need less anesthetic than other cases. They should never be deeply anesthetized. I, personally, never touch a case unless I have a professional anesthetist in charge. The anesthesia should be smooth, and in cerebellar cases and frequently in others we use intratracheal anesthesia. It is very desirable to avoid postoperative vomiting, since with a large bone defect or open dura vomiting may rupture a cortical vessel. The anesthetic is so

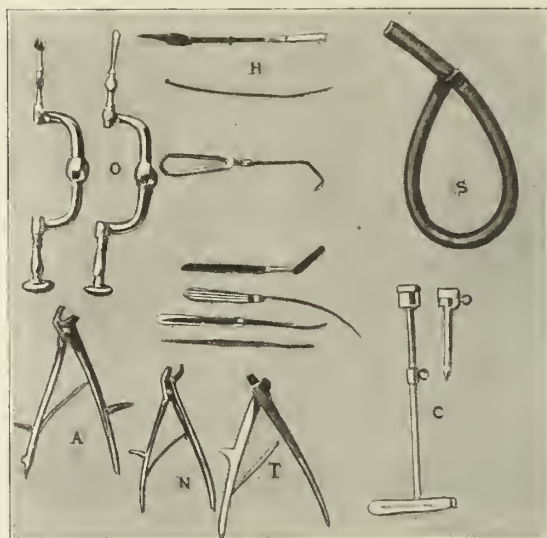


Fig. 3.—O, perforator and burr usually used for holes at edges of an osteoplastic flap. H, gigli guides. C, trephine with extension for work in the cerebellar fossa. S, tourniquet used in craniotomies above the tentorium. A, N, T, forceps for cutting the sides of an osteoplastic flap.

light that not infrequently patients are talking before they leave the table. This vomiting must be avoided if it is at all possible. Moving a patient immediately after operation predisposes to vomiting. I frequently, especially in cerebellar cases, leave the patient on the operating table for five or six hours after the operation.

Blood pressure observations should always be taken during a craniotomy. It gives a more valuable indication of the patient's condition than anything else and after operation for the first eight to twelve hours it should be taken frequently. Our routine in the wards is that such a patient's blood pressure is taken every ten minutes, as it gives the first warning of any

intracranial hemorrhage, a complication that occurs at times.

The proper methods of handling nervous tissue are very different from those used on other tissues of the body. When hemorrhage occurs in an extremity or in the abdomen, we use sponges and clamps with impunity, but such methods on the brain lead to poor and at times disastrous results. These and other points in the handling of nervous tissues must be understood as well by the assistants as by the surgeon himself. Wiping the intestine with a sponge may irritate the peritoneal coat and lead to adhesions, but every time this is done to the cortex, nervous cells are destroyed and function is interfered with. Consequently we only use wet absorbent cotton for sponging, and very

able aids we have in facilitating our manipulation in the cranial cavity. Unless spinal fluid has been freely removed, a brain under great pressure cannot be retracted without injury; a cerebellar lobe cannot be drawn to one side to expose the cerebellopontine angle, the seat frequently of tumors. In cranial fractures asso-

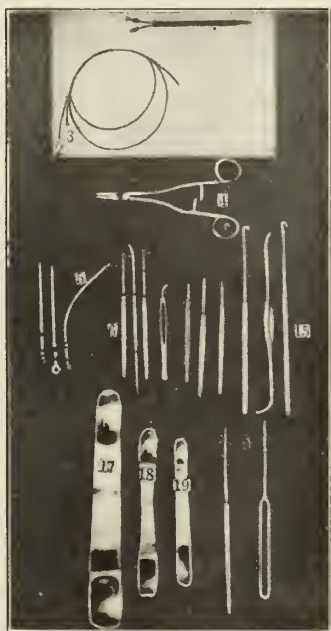


Fig. 4.—1, Bipolar electrode; 2, correct type of gigli saw; 3, incorrect type of gigli saw; 4, Cushing silver clip holder; 5, pliable corpus callosum puncture needle; 6-15, hooks and knives for nerve suture and posterior root section; 17-19, brain retractors, pliable.

fine silk ligatures or silver clips for control of hemorrhage. Not infrequently a bit of muscle placed on a bleeding point will do the work of a ligature. We have never felt the need of using Kocher's coagulen, but this might prove useful in such cases.

Lumbar puncture and ventricle puncture should be constantly resorted to to reduce the intracranial pressure if it is excessive. When there is any danger of the pressure being on the medulla, and this is always a danger if the process, hemorrhage, or new growth is in the posterior fossa, lumbar puncture is not to be performed, but a ventricle puncture instead. Ventricular puncture is one of the most valu-

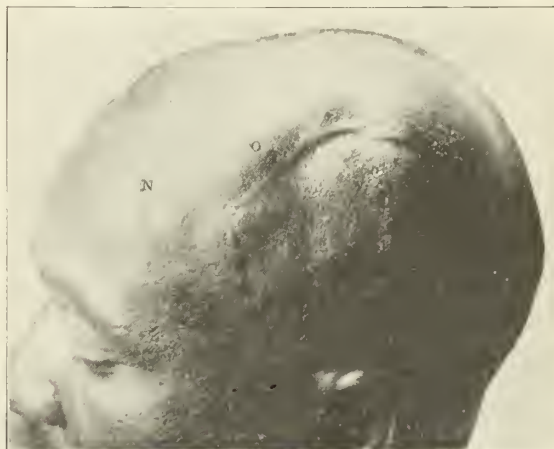


Fig. 5.—O, bad scar associated with Jacksonian epilepsy. N, week after operation, anterior end of new scar barely visible. In this case a facial fat pad was put in to overcome the scar with adhesions.

ciated with laceration, I have often seen the opening of the bone and dura followed by a veritable avalanche of brain tissue. The sudden release of pressure causes rupture of the cortex and of vessels and in desperation the operator



Fig. 6.—Craniotomy wound week after operation.

attempts to hold or press back the brain as he would distended intestines during a laparotomy. Had he withdrawn cerebrospinal fluid, this would not have occurred.

To do these cases properly, a rather elaborate armamentarium is required. The patient, especially in cerebellar cases, must lie face downward, but so that he can breathe freely

(Fig. 1). The hemostasis must be perfect, and this is only possible when the operation proceeds slowly. No spectacular speed has any place in this work. Bone wax of course is essential; nothing else I know of controls hemorrhage from the diploe or emissary veins so effectually.



Fig. 7.—Bilateral incision used in all cerebellar operations. Two weeks after operation.

I find a large variety of bone forceps are necessary to work on the skull. In cerebellar operations, where one must work about the foramen magnum, for its posterior part should



Fig. 8.—Typical cerebellar hernia following removal of a tumor of the acoustic nerve.

always be removed in every cerebellar operation, as that is the point where compression and medullary collapse take place, these forceps are particularly necessary (Figs. 2, 3 and 4).

In all decompression, the dura must be left open, as it, to the same extent as the bone,

prevents expansion of the brain. Now with this great pressure causing a marked herniation of a wound, it becomes essential to get a perfect primary union and a very tight closure. For this reason every wound is closed with the greatest care, in layers, laying particular emphasis on the aponeurosis of the scalp, which is most important. If this layer is carefully closed, cerebrospinal fistulae never occur.

Such a technic means a long operation, but in my experience the careful hemostasis counteracts any ill effects we might expect from so long an anesthesia.

Euclid Avenue and Kingshighway.

DISCUSSION

DR. WILLARD BARTLETT, St. Louis: In connection with the excellent bone-cutting forceps to which Dr. Sachs referred when he compared it to that used by Cushing, I was unable to buy those forceps anywhere after I had heard Dr. Sachs recommend it and he very kindly lent me his, of which I had a copy made. I want to say that I know of nothing else which will so safely cut a narrow channel through the skull. Since I was quite unable to buy the forceps, it has occurred to me that that would be the case with any of you who might wish it and if any one desires the forceps I will be glad to give him mine to have copied, or I could have the mechanic in St. Louis who did mine make one and send it.

DR. B. A. POORMAN, Kansas City: This is a very important subject and should bring out some discussion, first, because the proportion of tumors which are operable is stated by some men to be as low as 5 per cent. and by others between 5 and 10 per cent.; second, because of the misunderstanding as to symptoms. We know that the tumor which comes to the surgeon is in the later stage because the focal symptoms which Dr. Sachs has spoken of are not recognized early. They wait until those cranial symptoms occur which make the case almost an inoperable one, that is, the vomiting, the extreme headache and, usually, the eye symptoms.

The doctor has spoken of the cerebrospinal fluid being an important thing, and I think it worth repeating. The decompression operation does two things—it does away with the pressure and the thing that causes very much of the distress to the patient, that is, the intracranial pressure from the cerebrospinal fluid. We know that men who have operated on a great many of these cases say that tumors of any size which are still without that marked pressure will not bring out the symptoms that those do with which the cerebrospinal fluid is present; that is, that those tumors which afford the least symptoms are not the smallest tumors, but they are those which have no cerebrospinal fluid present.

One other point is in regard to the hemostasis. The doctor has spoken of bone wax. I use a very satisfactory and simple method, and that is with a small punch which has a point a little larger than a lead pencil, and when I see a vessel I just hit it a little rap and that raises pressure on the diploe and causes closure of the lumen of the vessel.

DR. ERNEST SACHS, St. Louis, closing: I am glad that Dr. Poorman has emphasized the importance of withdrawing cerebrospinal fluid, but I think that his idea about the cerebrospinal fluid being the prime factor in the production of symptoms, if I understood him correctly, is a mistaken one. This idea has recently been advanced by Dr. Fraser of Philadelphia. I know that I have seen a great many tumors that have given very marked symptoms without any dila-

tation of the ventricles, in the production of which the cerebrospinal fluid is the great factor. I have in my mind a case seen recently of a very large tumor which did not give symptoms until it came to the surface. In that case there was no dilatation of the ventricles at all; the symptoms became marked only when the cortex was involved.

Another point which I consider has led largely to the neglect of treatment in these cases is the statement that only 5 or 10 per cent. of brain tumors are operable. That statement was originally made by Dr. Allan Starr and is based on the study of a large number of necropsies. We all know that if the operability of the case is to be based on the necropsy findings all cases would be inoperable, and such methods are obviously unfair. In the second place, I grant that a large percentage of brain tumors are inoperable, but we have to keep in mind the fact that relief from symptoms may do a patient a great deal of good and may prolong life for a considerable time. We cannot judge results in cerebral cases on the same basis as we judge our results, for instance, in appendicitis. In the matter of amputation, for example, a man's life may be saved by an amputation, but he remains mutilated and we consider it a perfectly satisfactory result. In the same way, in cerebrospinal cases we may relieve the patient's symptoms though we do not absolutely cure him and still we may consider that we have gotten a pretty satisfactory result; while in appendicitis cases, if we do not get the appendix out and effect complete cure, we do not think we have accomplished a great deal.

Dr. Bartlett's remark about this particular instrument brings out the point that I tried to make. Dr. Bartlett, I am glad to say, has found the instrument as useful as I have. It does not necessarily mean that the instrument is the only one that is effective; some men find others just as useful. I think it is just a matter of getting accustomed to a certain armamentarium.

TUMORS OF THE CAROTID BODY, WITH REPORT OF A CASE*

C. W. RUSSELL, M.D.
SPRINGFIELD, MO.

Unrecognized as to embryological development or derivation, of undetermined function, inconstantly present, 3 mm. wide, 5 mm. long and about $2\frac{1}{2}$ mm. thick, lying in the bifurcation of the common carotid artery, is the extent of our knowledge of this so-called gland. Because of this uncertainty as to embryologic derivation or physiologic function, carotid body seems a better term than carotid gland.

Anatomically this body increases in size because of increase of blood-vessels, connective tissue and parenchyma. The consistence of the carotid body varies, but usually it is moderately hard and elastic. It varies in color from a reddish gray to a reddish brown.

It lies between the external and internal carotid arteries and is united to one or the other of these more closely than to its fellow by the ligament of Mayer, through which it receives its

blood supply. The body is surrounded by a dense capsule both of white and elastic fibers, from which prolongations are sent in to divide it into lobes, and these in turn are divided into lobules.

The nerve supply is abundant, nerves from both the cranial and sympathetic system being received by the carotid body.

Embryologically only a few observations of the gland have been made on man. Some view its origin from the third or the fourth bronchial cleft, while others think it is derived from the perithelium of the carotid arteries. Similar cells are found in the medulla of the adrenals, in the pituitary, and in the ganglion of the sympathetic nervous system. While the origin of the chromaffin system is, embryologically speaking, common, it possesses different functions. Thus the medulla of the adrenals affects the blood pressure, while the cortex has to do

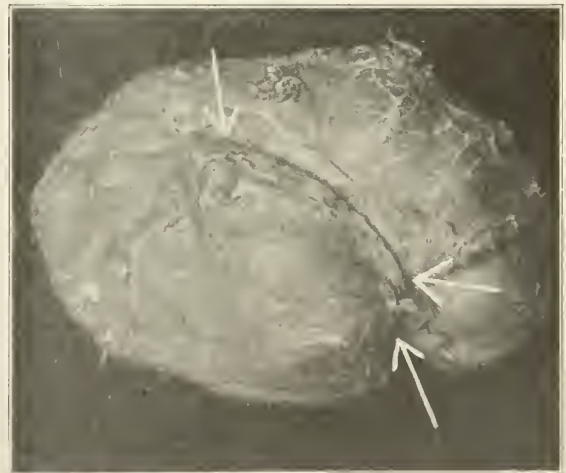


Fig. 1.—Gross specimen. Note course of carotid artery.

with the development of the sexual apparatus, and the pituitary exerts a trophic influence over the body. The consensus of opinion is that the carotid body is derived from the sympathetic nervous system.

The physiology of the body is unknown. A watery extract prepared by Mulon, in 1904, from horses, produced in rabbits a rise of blood pressure and sometimes an acceleration of heart beat. Gomez, in 1907 and 1908, prepared a glycerin extract with which he produced a fall of blood pressure in cats. After numerous experiments, Frugoni doubts the existence of an important internal secretion. Its inconstant presence, the contradictory results in experimental work, and the lack of clinical observation, indicate that the function, whatever it may be, is not important. The varying functions of the organs derived from the chromaffin system, together with the fact that the carotid body

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

atrophies at or soon after puberty or full body development, suggest that when its function is established it will be in some way connected with the trophic stimuli of the body development.

The literature on this subject is not extensive, Keen and Funke, in 1906, wrote the first detailed paper on the subject, collecting 27 cases of living and 2 that were discovered at necropsy.

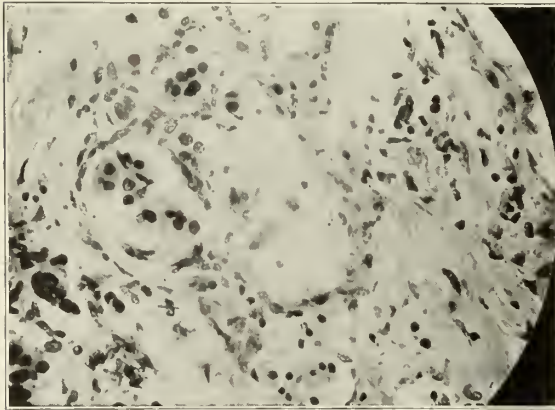


Fig. 2.—High power; showing the tendency to alveolar arrangement of the cells, some of which contain more than one nucleus. (Courtesy of Dr. Hertzler.)

Callison and Mackenty collected 31 more, and their exhaustive paper on the subject forms the basis of this review.

This patient at the age of 14 noticed a growth on the right side of the neck, which felt like a kernel and was movable. Was not painful until the patient was 24 years old, when it was so large that it caused dyspnea and pained mostly upon deglutition. It was almost impossible to swallow large portions of food at a time. As the patient became older she noticed that the nervous symptoms increased and about 1½ years prior to removal, the tumor began to grow very rapidly. The patient was operated on August 5, 1914, at the age of 25½ years. Examination of the tumor revealed a mass apparently the size of a large-sized orange, movable from side to side but not up and down. The mass had a peculiar elastic feel, was slightly compressible and had pulsations synchronous with the heart beat, and expansible in all directions. A murmur could be heard over the whole tumor. The patient's right ear hurt all the time and she could not hear well on account of "the roaring in the head" as she termed it. With the stethoscope it sounded not unlike a stenosis of one of the largest blood-vessels. There was a growing tendency to become tired for about two years previous to the removal of the body.

The body was removed through an incision over its central part and parallel with the sternocleidomastoid muscle, upon which it lay ante-

riorly. It was necessary to ligate all the carotids on that side. The recurrent laryngeal, the hypoglossal and the superior cervical nerves were not injured. The bleeding was free and difficult to control. There was no hoarseness, paralysis of the ocular muscles, or contraction of the pupil, following. The most stubborn post-operative symptom was that the patient became forgetful of what she was going to do and had to stop and think, but this trouble is wearing away. Before and immediately after the operation the eyes used to flutter, and in reading, the letters would run together, but she has gotten over this as her strength returned.

The following is the laboratory report of Dr. Stone:

WASSERMANN TEST NEGATIVE

The specimen is a slightly lobulated mass of tissue 7 by 5 by 3.5 cm. and weighs 47 gm. It is grayish pink in color, firm and elastic to the touch, and enclosed in a definite capsule except at one area, 3 by 4 cm., where the tumor tissue presents a torn surface. There is a hilus near one end of the long axis, at which is seen a large blood vessel dividing into two branches. One of these courses over the surface of the tumor for a distance of 3 cm., and apparently within the capsule. The other branch enters the substance of the tumor and immediately breaks up into many smaller vessels.

On section, the growth presents a grayish-pink surface with numerous small vessels shown in section. Whitish bands are seen traversing the cut surface.

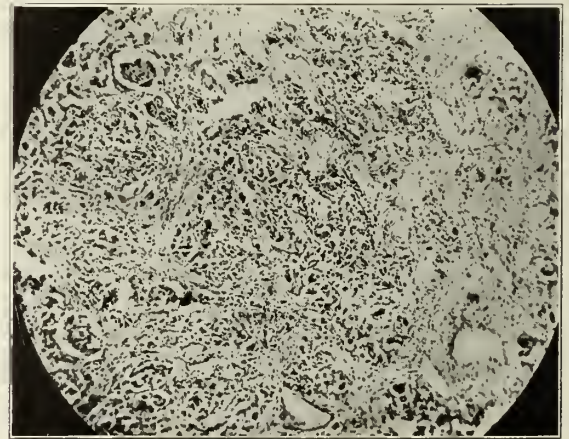


Fig. 3.—Low power. The vascularity of the growth, its connective tissue stroma, and the large size of the tumor cells are well shown. (Courtesy of Dr. Hertzler.)

Microscopically there is seen a connective tissue capsule which sends fairly large prolongations into the body of the tumor. These break up into small strands carrying blood vessels and surround groups of cells, giving an alveolar appearance. These cells are rather large, polyhedral in shape, and contain from one to several nuclei.

Diagnosis.—Tumor of the carotid body.

Diagnosis, hard as it is on paper, is still harder in actual practice. Differentiation must be made from cervical lymph adenitis, early metastatic carcinoma, lymphosarcoma, lipoma,

fibroma, aneurysm, branchial cyst, gumma, Hodgkin's disease and aberrant thyroid.

The greatest difficulty in making a diagnosis is the rarity of the cases, but having had this one, I believe with Keen that if I should have another one I could make a diagnosis, or at least include it as one of the possibilities. Every man who saw this case diagnosed it aneurysm. Differentiation of this malady is only necessary when the trouble is in the superior carotid triangle. In only seven operated on out of fifty-four patients was it possible to get the tumor out with ligating only the external



Fig. 4.—Tumor laid open, showing the numerous blood vessels. (Courtesy of Dr. Hertzler.)

carotid. In thirty-two cases all three of the carotids were ligated. A mortality of 22 per cent. from all causes prevailed in the series of fifty-four cases.

Woodruff Building.

DISCUSSION

DR. J. F. BINNIE, Kansas City: About twenty years ago I operated on a man for a tumor which I diagnosed as a lymphangioma on the right side of the neck. In the course of the operation I changed my mind and told the students who happened to be present that I thought it was a sample of one of those cases recently described in English literature as a potato-like tumor of the neck. Those are the cases which have crystallized into tumors of the carotid body. In that case I was able to dissect out the tumor without, if I remember rightly, ligation of any of the carotid vessels. Dr. Frank Hall made a microscopic examination and confirmed my diagnosis of tumor of the carotid body, although it was put under the appellation of potato-like tumor. The patient recovered from the operation but, as some of you know, the Kansas City general hospital facilities in those days were such that it was absolutely impossible to have any records of a case, because at that time the hospital was under the city physician and the city physician was essentially a political appointee and his greatest ambition was, not to have a decent hospital, but to be well within his appropriation. Hence I cannot give any of the subsequent history of that patient.

DR. O. L. CASTLE, Kansas City: Tumors of the carotid body are so rare that they are truly curiosities. The carotid, being one of the so-called ductless glands, comes in the class that makes tumor of it appear to be in the class of goiterous thyroids, or, perhaps, as Dr. Hertzler has remarked, a condition analogous to hypernephromas originating in adrenal tissue. The case is truly one of such unusual interest that I am sorry the doctor has not brought a microscopic demonstration of his very interesting case.

DR. C. B. FRANCISCO, Kansas City: I want to say that I had the opportunity to examine Dr. Russell's case and he is certainly to be complimented on the result he has obtained. I think he did not mention the fact in his report, but he tells me that he also removed a small tumor from the other side of the neck which, however, proved to be a small lymph gland. It would have been very unusual indeed had the enlargement on the other side proved to be a tumor of the carotid also. It is a very interesting case and I think a very unusual one.

DR. C. W. RUSSELL, Springfield, closing: About two years following the removal of this tumor of the carotid body, there appeared on the opposite side of the neck a small, freely movable tumor which was properly located to have been of the carotid body. I removed this with the understanding that if it involved the blood vessels on that side, as it had on the other, the skin incision would be sewed up without attempting to remove the body. However, it proved to be just a hypertrophy of one of the lymph nodes. Dr. Hertzler has asked for the original tumor and will make some slides and pictures from it which I hope will be published with the paper when it appears in the state JOURNAL. The rarity of these cases and the fact that they are accompanied by such an unusually high death rate—not only immediate, but also the unfortunate sequelae which range from deviation of the tongue, ptosis of the eye on that side, to iritis, hemiplegia, aphasia or dysphagia from tugging of the trachea, make the case unusually interesting.

CHRONIC CYSTIC MASTITIS*

O. L. CASTLE, M.D.
KANSAS CITY, MO.

Chronic cystic mastitis has been known under many different titles. Thus, for instance, Réclus¹ has termed it "intra-acinous cystic epithelioma"; Koenig² has called it "mastitis chronica cystica"; Warren³ has used the term "abnormal involution"; Bloodgood⁴ has termed it "senile parenchymatous hypertrophy." This use of varied titles for the same condition has led to confusion and has been a potent factor in medical men not having a clear, concise knowledge of the condition.

It has been estimated by Rodman⁵ that eighteen thousand women die of cancer of the breast each year in the United States. Careful study of all conditions that predispose to this terrible

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

1. Réclus: *Gaz. d. hôp.*, 1877, July, 673.

2. Koenig: *Zentralb. f. Chir.*, 1893, xx, 49.

3. Warren: *Jour. Am. Med. Assn.*, 1905, xiv, 149.

4. Bloodgood: *Surg., Gynec. and Obst.*, 1906, iii, 721.

5. Rodman: *Jour. Am. Med. Assn.*, 1915, lxiv, 707.

malady should occupy the attention of medical men, both physicians and surgeons.

Chronic cystic mastitis has a definite relationship to the development of carcinoma of the breast. McCarty,⁶ in 1913, states that chronic cystic mastitis is "often, if not always, associated with carcinoma." Bloodgood states that 50 per cent. of the adenocystic type is carcinomatous. In Rodman's 200 cases 21.5 per

cent. Chronic cystic mastitis is a disease that comes on in women about the time of the menopause. It is usually between the ages of 40 and 50, the youngest in our series being 25 and the oldest 52. In Judd's⁷ report 85 per cent. of his 218 cases occurred between 30 and 60. Bloodgood reported his youngest patient 33 years of age, but suggests that more recent observations tend to show this condition to be found in younger people than was previously observed.

This condition is more prevalent in married women who have borne children than in those in whom lactation hypertrophy has never taken place. Thus, for instance, in Judd's 207 cases 140 had borne children and 3 had had miscarriages. Bloodgood, in 1906, does not agree with this opinion, and states that it is usually found in those whose breasts have never lactated. In more than 50 per cent. of the cases

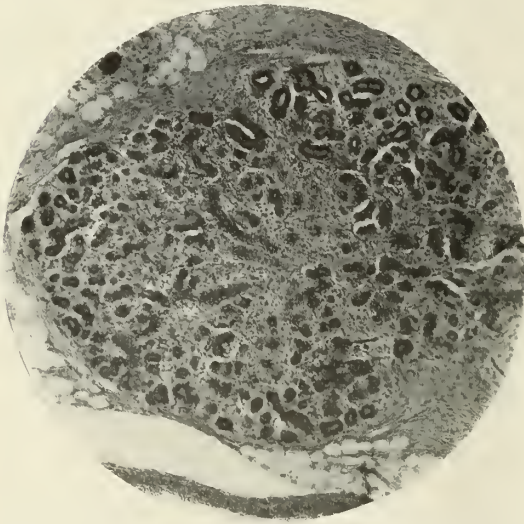


Fig. 1.—Low power photomicrograph showing hyperplastic breast lobule with round-cell infiltration, non-cystic but in a breast with multiple cysts. (Zeiss Oc. 4, Obj. A.)



Fig. 2.—Low power photomicrograph showing early stage of cyst formation. Both acini and duct are cystic with hyperplasia of epithelium beginning. (Zeiss Oc. 4, Obj. A.)

cent. had undergone cancerous change. He also reports that the University of Pennsylvania records, as well as the records from Bertel's German clinic, show that 25 per cent. of cases of chronic cystic mastitis are genuinely cancerous.

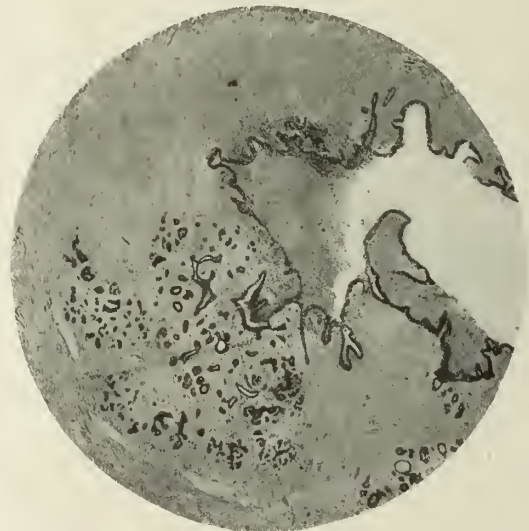


Fig. 3.—Low power photomicrograph showing atrophy of lobule, small acinar cysts and a large duct cyst filled with fatty cellular debris. Also note irregularity of cyst wall and round-cell infiltration. (Zeiss Oc. 2, Obj. A.)

it is possible to obtain history of a previous mastitis or caked breast, which I believe is a very important factor to take into consideration in these cases.

The first symptom that usually calls the attention of the patient to trouble in the breast is that of hypersensitiveness, pain and tenderness. This is present in the great majority of cases and is the thing that usually brings the patient to the doctor. It is this symptom that should put us on guard as to possible genuine trouble in the breast and not dismiss it as a probable case of neuralgia or neuritis not requiring further observation. It may also be noted as a constant sign that the breast substance is more firm than the normal gland. To the palpating hand it is possible to note fine nodulations in

6. McCarty: Surg., Gynec. and Obst., 1913, xvii, 441.

7. Judd: Jour. Michigan Med. Soc., 1914, xiii, 11.

the glandular substance that are not fixed to overlying skin or underlying fascia. This can best be done by applying pressure with the flat palmar surface of the hand against the breast. It is misleading to grasp the breast substance between the fingers for the reason that the normal lobules will be mistaken for pathologic nodules. As the disease advances the cysts become larger and it is possible then without difficulty to palpate definite discrete tumor masses. The nipple is usually not so freely movable as normal, and in the advanced cases it may be flattened or even retracted. I have noted in a few cases that the breast will definitely fluctuate in size, usually with menstruation, or, as I have seen in one case, this fluctuation had no relation to the menstruation. There may be secretion from the nipple. Thus, Warren reports that fourteen of his eighty-seven

as large as a hen's egg. In the simple cysts the wall is smooth, while in the adenocysts the wall is warty or the cavity of the cyst may be completely filled by epithelial proliferation. The simple cysts are filled by different types of material. Some are filled with clear fluid, others are filled with greenish-gray fluid, while still others may be filled with material resembling vaselin or plastic caseous substance.



Fig. 4.—Low power photomicrograph showing multiple cysts, both of the simple and adeno-cyst types. Some cysts are almost filled with hyperplastic epithelium. (Zeiss Oc. 4, Obj. A.)

cases had discharge from the nipple. This discharge is of watery nature in the majority of cases, and seldom is there present a bloody fluid. Where blood is present in the discharge it is suggestive of cancerous change in an adenocyst. Very rarely the axillary glands are slightly enlarged from the reaction to chronic inflammation. In the great majority of cases all of the symptoms of breast trouble are enhanced at time of menstruation.

The gross pathology of chronic cystic mastitis has a characteristic picture. The breast in early cases may be of normal or very slightly increased size. The connective tissue is more abundant and of firmer consistency than normal. In early cases there is noted in the cut surface multiple minute cysts, while in the more advanced cases the cysts may be more numerous and are of greater size, some of them being



Fig. 5.—Low power photomicrograph showing advanced multiple simple cysts. Note the simple flat single layer of epithelial cells; also one irregular cyst filled with fatty cellular debris. (Zeiss Oc. 2, Obj. A.)

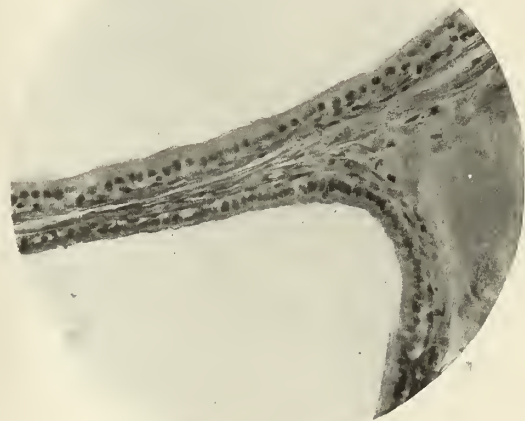


Fig. 6.—High power photomicrograph showing detail in Fig. 5. Note the differentiating basement membrane on which rests a single layer of epithelial cells containing symmetrical nuclei. (Zeiss Oc. 4, Obj. D.)

The histopathology of this condition is characterized by chronic inflammation with cyst formation. There are numerous focal deposits of round cells, both near a large distended cyst wall as well as in the interacinar connective tissue of a hyperplastic breast lobule. In many

cases the connective tissue is found to have undergone a hyaline degeneration, taking a deep eosin stain. The most important pathologic consideration, however, is that of character and structure of the cyst wall which is definitely differentiated into two types.

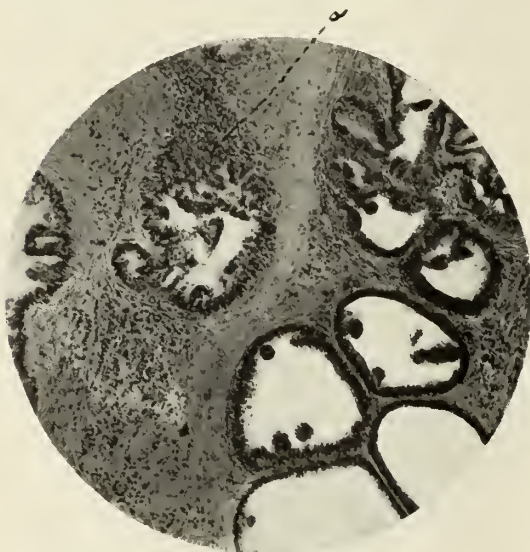


Fig. 7.—Low power photomicrograph showing development of the adeno-cyst. Early buds of epithelium appear on the wall and grow, filling in the cavities. Note the very pronounced diffuse round-cell infiltration; also at "a" when there is a lack of demarcation between the epithelium and interstitial connective tissue due to tangential plane of section. This is confusing and might possibly be mistaken for infiltration of malignancy. (Zeiss, Oc. 4, Obj. A.)



Fig. 8.—Low power photomicrograph showing more advanced adeno-cyst formation. Note round-cell infiltration. (Zeiss, Oc. 4, Obj. A.)

The first type of cyst is the simple cyst with smooth wall and the cavity filled by secretion. In this type the epithelium is usually a single layer in thickness, in the small cysts of columnar type and in the large cysts of low cuboidal type.

There is definite basement membrane and the epithelial cells have regular nuclei, showing no active mitosis. This is the least dangerous of the two types, and is characterized by secretion, rather than by epithelial proliferation.

The second type is that which has been termed adenocyst. In these the earliest change noted is an increase in the number of layers of epithelial cells lining the cyst cavity, numbering as many as two to five or six cell layers. In addition to the increase in the number of epithelial layers lining the cyst walls, there starts a process of epithelial budding which may go on to the degree of entirely filling the cavity with hyperplastic epithelial cells. This process is accompanied by changes in the nucleus and size of cells, so that they are so atypical that it is impossible to differentiate them from cancer



Fig. 9.—High power photomicrograph showing adeno-cyst entirely filled by hyperplastic epithelium. (Zeiss, Oc. 4, Obj. D.)

cells, as McCarty has so well emphasized. In other cysts there is an infolding of the cyst wall, so that the cyst cavity may be filled by finger-like projections of epithelium, in the center of which there is a fine core of connective tissue that is continuous with the connective tissue of the cyst wall. In practically all of the specimens that I have examined, both the simple secretion cysts and the cysts with the epithelial hyperplasia have been noted in the same breast.

The etiology of chronic cystic mastitis is not definitely established. Bloodgood leans to the theory of a toxic origin comparable to changes in goiterous thyroids. Many other observers have evolved different theories as to causation. However, it seems possible to be able to demonstrate, from careful microscopic study, a single chronic inflammation as the prime factor in the process. The cause of this inflammation has not been determined. With chronic inflamma-

tion there is formed cicatricial tissue, which upon contraction impinges upon duct or acinus, which in turn cause occlusion with resulting retention. From this source irritation is set up in the wall of the developing cyst that is evidenced by a hypersecretion as shown in the simple cysts, or by epithelial hyperplasia that is present in adenocysts. With the epithelial hyperplasia of adenocysts there may be noted in specimens an apparent definite transition from a benign growth confined by a definite basement membrane into a definite malignant process that is invading the surrounding tissue.

The condition found in adenocysts is in every way similar to that found in ovarian cysts in which epithelial vegetations stud the wall. This condition, as is well recognized, is cancerous in the large majority of cases. I have also encountered several specimens of adenomatous prostates with definite transition into cancer.



Fig. 10.—Low power photomicrograph showing a lobule in chronic cystic mastitis in which carcinoma has developed. (Zeiss, Oc. 4, Obj. A.)

The treatment of chronic cystic mastitis should be based upon its pathology. Since it furnishes such a favorable environment for the development of carcinoma, with our present knowledge, surgical excision of entire breast substance is the operation indicated. An immediate frozen section should be made, and if cancer is found the operation should be extended to include a radical axillary dissection. Some observers have recommended and have done conservative excisions of localized cystic areas. Late reports have shown these patients to present themselves with cyst recurrence, some of which had become cancerous. The multiplicity of cystic lesions makes it impossible to remove the diseased tissue in toto except by removal of the entire glandular breast substance.

CONCLUSIONS

1. Chronic cystic mastitis is a disease of the female breast characterized by chronic inflammation and cyst formation.

2. Chronic cystic mastitis strongly predisposes to carcinoma.

3. Treatment should be excision of entire glandular breast substance. Immediate frozen section diagnosis should be made, and if cancer is found, radical axillary dissection should also be done.

4. Do not dismiss patients with tender or painful breasts without making a very careful examination.

I wish to express my thanks to Dr. Jabez N. Jackson, in whose practice I have had the opportunity of observing twelve cases clinically and microscopically.

425 Argyle Building.

DISCUSSION

DR. W. T. ELAM, St. Joseph: The doctor has dealt very thoroughly with the diagnosis of these cases. I have found that in a great many cases the patients themselves make the diagnosis or help you to make the diagnosis, by complaining of lumps in the breast which have been increasing in size, and this with the secretion and with the history of a chronic mastitis or caked breasts oftentimes aid in the diagnosis.

It seems to me that this class of cases is very prone, even more so than a great many chronic infections in other organs, to become malignant. As the doctor has shown in his lantern slides, the extreme dilatation, the active proliferation of the epithelium, the stretching and forcing apart of the cells which form the basic membrane, enable the deeper epithelial cells to invade and infiltrate the tissues. Looking at it in this way, one finds it easy to understand how chronic cystic mastitis may become a malignant condition.

There is practically only one treatment and that is excision of the breast; if there are any infiltrated glands in the axilla or elsewhere they should be completely removed. The immediate examination of the tissue in the operating room oftentimes is not sufficient thoroughly to establish the fact that you have not, possibly, an oncoming malignant condition, because all the tissue cannot be sectioned and examined thoroughly, sufficiently thoroughly, at least, to enable one to positively exclude cancer in these cases. The age of the patient has something to do with the question in a single cyst or a single nodule in the breast; the unmarried, young female who presents, as she sometimes does, a single cystic dilatation of the breast might be treated by simply removing the cyst. However, that is dangerous and uncertain because you frequently find in these cases—I know I have—that there is a recurrence of the cystic condition in some other portion of the breast which could not be determined at the time of operation. Therefore, it seems to me wise that whenever a patient presents herself with a nodule in the breast, especially if she is between the third and fourth decade, to advise the complete removal of the breast.

DR. L. J. DANDURANT, St. Joseph: I wish to ask a question in regard to the point brought up by Dr. Byrne in his discussion, that all surgeons are agreed on the surgical treatment of these cases. It occurs to me, if I remember correctly, that Dr. Murphy, when he satisfies himself as to the simple nature of these cysts by the withdrawal of the fluid with a

hypodermic syringe, does not recommend the radical removal of the breast.

DR. O. L. CASTLE, Kansas City, closing: We must judge these cases, not only with the microscope, but in addition we should place great dependence on our gross pathology. This is one place where, with our microscopic work, we are becoming rather negligent in attention to the gross pathology. Cancers of any particular size can usually be detected in these breasts as small, hard masses and are usually easy to differentiate from the hypertrophy of chronic mastitis. However, there are cases in microscopic studies where I do not think even the best-trained pathologist can definitely say whether or not they are malignant. The operation should be a total extirpation of the breast substance. In regard to partial plastic resection, there is a recent and very thorough observation in the literature by Greenough and Simmons⁸ in the *Transactions of the American Surgical Association*, in which they have collected cases from the literature, adding their own. In those cases, about eighty-seven, 20 per cent., came back with a recurrence of the same trouble for which they were operated on (partial plastic resection); and 5 per cent. had undergone cancerous change which was definitely proved by microscopic examination. So it is important that we observe these cases early, diagnose them early, and operate on them early and thoroughly.

A QUESTION IN DEALING WITH ABDOMINAL ADHESIONS*

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COLUMBIA, MO.

A student of abdominal infection and inflammation will readily conclude that the formation of abdominal adhesions is an effort of nature to antagonize infection and limit the area thereof. This provision of nature is of particular value in the large abdominal cavity. Here is most graphically exemplified this beneficent process by which an infected area is quickly walled off by adhesions following the exudate of serofibrinous material localizing it thereby. A student of nature will also have noticed the very great variability in different animals and in man in their susceptibility to adhesive abdominal inflammation. One must by deduction conclude that resistance to infection is in direct proportion to the animal's power of forming adhesions. Now nature provides the hog with great peritoneal resistance and a proportionately great power of forming peritoneal adhesions. So great is this power that the farmer habitually performs oophorectomy on his sows with a pocket knife and a piece of binding twine with perhaps a dunghheap for an operation table. Mortality is nil. Extensive adhesions form immediately. The hog lives on her belly and nature has provided her with this extra resisting power. When the farmer spays his bitch with the same technic,

his mortality is very much greater. The dog lives not so much on her belly and nature has provided proportionately less resistance. Now if the farmer were to use the same technic on human beings who walk erect his mortality would be 100 per cent.

Again there is probably a great deal of difference in the amount of adhesions formed, due to the kind of infection making the inflammation. No doubt some infections are more likely to produce a liberal serofibrinous exudate and thereby promote adhesions. Some also may be so virulent that the serum is poured out so rapidly that adhesions may not form quickly enough and general peritoneal infection results. I think it has been observed by some that the peritoneum of young children does not adhere as readily as in adults. That is my impression.

Certainly, then, this power of adhesive formation in the peritoneum is a beneficent process of nature, and like many of nature's efforts may either fall short of effectiveness or be overdone. If it is overdone we have a pathological condition interfering with functioning.

The discussion of postoperative adhesions has been most liberal. The factors entering into causation, beside the infection, such as trauma and exposure to air, are variable quantities to be taken into serious account. It is not my purpose to review the discussion as to the value of the various means of preventing postoperative adhesions. The fact that so many plans have been devised indicates to us that there is little to any of them. We know when a multitude of remedies are prescribed for a disease that few if any of them are of real value.

These, however, are merely preliminary observations leading up to the question in point. Here is a case typical of the class in question, a salpingitis of more than a year's duration, with several acute attacks. A final acute attack of more severity, with daily rise of temperature and much abdominal pain, occurs, the patient coming under observation about two weeks after the onset of acute symptoms. Examination in the hospital for a few days more revealed that she had a condition approaching ileus. Temperature was usually 99 F. and fractions, much pain, vomiting, and very little going through the bowel, the pelvis filled with a firm mass with no semblance of fluctuation. There was much pain on examination, and much abdominal resistance low down. A leukocytosis of 18,000 was present. Operation reveals pelvis filled with the inflammatory exudate which was highly organized. The lines of cleavage were difficult to find, making the adhesion work hard. I removed both tubes in a mass of fibrous tissue and deep down in the pelvis at the end of the left tube was a small

⁸ Greenough and Simmons: *Tr. Am. Surg. Assn.*, 1914, xxxii, 419.

* Read at the Fifty-Eighth Annual Meeting of the Missouri State Medical Association, St. Joseph, May 10-12, 1915.

abscess. I introduced large rubber-covered drains. A patient like this negro woman, under an equal amount of trauma, should not develop much shock. She was put to bed showing no evidence of shock. In about six hours she became rather suddenly practically pulseless with all the clinical evidence of shock. Her condition demanded hard work over night with proctoclysis, hypodermoclysis, adrenalin, etc., before she rallied late next morning, after which there was no further trouble.

Now is this shock, so-called secondary shock, or should we more properly designate it *toxemia* of the central centers? Is there not suddenly turned loose by the operative procedure an overwhelming dose of toxins? Nature had furnished antagonism enough for the daily quantity of poison released. By operation a great absorptive area is formed and nature's barriers are broken down, so that a much larger dose of poison may be absorbed and carried to the centers with the results pictured. You who have done adhesion work in the presence of active infection have all had such cases. You who have curetted an infected uterus have seen this kind of shock. You break down the barriers nature has provided and turn into circulation a large and sometimes overwhelming dose of poison. Will we name this shock or toxemia? Perhaps it does fit in with Crile's kinetic theory? If emotions, if drugs, and if trauma impress and affect the vitality of the central nerve cells, so also do toxins and more. But emotions, anesthesia and trauma are extraneous influences and can be much modified by anoci-association. Overwhelming toxemia is internal and often unexpected. The effect is entirely dependent on the patient's developed resistance and the magnitude of the dose. Anoci-association methods will not prevent this; not until some index is given which will measure the vitality of the nerve cell, and some way discovered to know the virulence of the infection.

From a practical surgical point of view, what can be done? It is so antagonistic to our ideas of thoroughness to leave an offending organ which is the focus of infection, such as an appendix or tube. However, may it not be a better procedure to be less thorough sometimes—to drain the abscess with the minimum amount of adhesion work and leave the offender for future dealing? If only we might have some certain means of anticipating these cases and being conservative. No one wishes to make a long convalescence and a second operation for a patient if it can be avoided. However, that is much better than a quick death. A leukocytosis indicates active resistance but is not sufficient. Extra firm adhesions show nature's breastworks protecting against invasion. In war analogy might we not be doing work for

the enemy when we tear down the breastworks. Perhaps it would be best to damage the fortification as little as possible when we have a leukocytosis indicating active infection.

SUMMARY

1. The formation of abdominal adhesions is one of nature's methods of limiting the extension of infection.
2. The observation of adhesions in animals indicates that nature provides those most exposed to infection by habits and environment with the greatest ability to form adhesions.
3. Resistance to peritoneal infection seems to be in direct proportion to the animal's power to form adhesions.
4. The kind of infection producing the inflammation has something to do with the readiness by which adhesions are formed.
5. Late postoperative shock, so-called "secondary shock," is not truly shock, but is due to the overwhelming of the nerve centers by suddenly turning loose a large dose of protein poison.
6. Theory not incompatible with Crile's kinetic theory, but application of principles of anoci-association impracticable.
7. Breaking down old adhesion breastworks in the presence of leukocytosis, or active battle in war analogy, would seem to be treasonable.
8. What is needed from a surgical standpoint is some index to the patient's resistance and the amount of operative procedure permissible.

Humboldt Building.

DISCUSSION

DR. HERMAN E. PEARSE, Kansas City: The presence of the delayed shock which the doctor has described, I think he correctly attributes to the blow of extensive internal infection. It is something we all meet more or less frequently and I would like to pass some slight criticism on his methods of treating it. When the heart is struggling under the load of infection, as the doctor described, it seems to me a poor plan to add thirty or forty ounces to the circulation by intravenous infusion. To be sure, it is desirable to dilute the blood stream and thereby to dilute the toxemia in the body, if we were sure that we were diluting the toxemia. I remember an unfortunate occurrence that taught me a lesson when I was in general practice in Kansas City fifteen or sixteen years ago. In this case I made use of a similar procedure with a patient suffering from this same sort of condition resulting from an acute, overwhelming attack of diphtheria, and I remember the very prompt way in which my patient died. I have seen one case since die in the same prompt way with this method of treatment. I think the water should always be placed under the skin where it is at the disposal of Nature if she wishes to take it up; I believe it should never be put into the circulation. If we use adrenalin we must certainly take the blood pressure previously. I still think that the one thing which has pulled these patients through for me when

everything else has failed was atropin. That was called to our attention by Professor Loomis; and I think nothing equals morphin and atropin in the shocks of deep infection. In the late shocks and even in the earlier ones, the placing of the greater part of the circulation in the capillaries by atropin, where it can carry out this struggle with toxemia that it needs to carry out, and the lowering of the patient's susceptibility to pain by morphin, are two great advantages to be obtained. I think nothing else equals it. Strychnin and adrenalin are inferior to that. We will save more patients if we will put our fluid under the skin and not increase the pressure of the circulation and, secondly, if we confine ourselves merely to administering doses of morphin and atropin.

DR. W. T. COUGHLIN, St. Louis: I believe a condition which calls for treatment sometimes, a condition of abdominal adhesions, intestinal adhesions, intraperitoneal adhesions, is due to infection with some organism of low virulence practically always. I believe that perhaps the trauma of handling while operating has something to do with lowering resistance, but I recently ran across a case of intestinal obstruction due to adhesions in which there never had been a laparotomy performed, or, as far as we could make out, any attack of peritonitis. Yet that abdomen was a mass of adhesions, just such as are often found after operation.

In the matter of late shock, I have stated elsewhere very distinctly that I believe delayed shock always means hidden hemorrhage, concealed hemorrhage. I know I lost a patient in my earlier experience from delayed shock. This patient showed "a large hematoma" in the peritoneal cavity, and the case was passed on as delayed shock by several colleagues.

There is such a thing, of course, as collapse after an operation; there is such a thing as death from shock at an operation, or some hours after; but I think that the patient who dies from shock never reacts after the primary operation; the patient with hemorrhage may react and die later. I have had the misfortune to lose a patient very recently from the shock of operation and I believe that patient was harmed by the use of adrenalin. I would advise any person who uses much adrenalin, to give himself at least one hypodermic injection of adrenalin, an ordinary dose, some day when he is feeling very well and note the effect on himself, and then decide with himself whether he wants to use that drug on a patient who is shocked. I do not think it does much good and I am sure it often does harm.

The patient who collapses some time after operation I believe does so most often because of the sudden taking up of toxins. The powers of absorption of the peritoneum are in abeyance for a while after the use of the anesthetic, and directly the anesthetic has worn off it may be only then that the peritoneal cavity begins again to absorb and soon takes up an amount of toxin which the patient is unable to bear and in the weakened condition of that patient's heart, now also fatigued from the effect of the anesthetic, there is, in addition, the effect of the toxin thrown on the muscle of the heart. I think it is quite possible that in these cases the toxemia hastens the dilatation and collapse and I surely agree with Dr. Pearse when he says that he believes it is very bad practice in these cases to throw into the circulation an inordinate quantity of saline. When you have a patient whose weakened heart is struggling under a burden, struggling to handle the blood which is coming to it, perhaps in too great quantity—in other words, a patient with acute dilatation of the heart—it is very much better, instead of throwing something into that circulation, to abstract blood from some of the veins.

EXPERIENCES WITH SCOPOLAMIN-NARCOFIN NARCOSIS*

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ST. LOUIS

Dämmer Schlaf or twilight sleep is the name given to that condition of the mind in which the patient remains perfectly conscious and intelligent, but at the same time loses a knowledge of the present events when they are completed. A period of amnesia results, during which time painful sensations that may be felt are not stored up in the memory (Knipe).

This paper will not go into the details of all that is known about twilight sleep, but rather will give a plain statement of facts as they were observed in a report of eleven private cases carried out in the home as well as in the hospital.

The drugs used in the cases to be described were scopolamin-Haltbar, manufactured by Hoffman La-Roche & Co. of Basel, and narcofin meconate, manufactured by C. F. Boehringer & Sons, Mannheim. Both drugs are put up in glass ampules containing 1.2 c.c. or 17 min., of scopolamin and 1 c.c., or 15 min., of narcofin respectively; 1.2 c.c. of scopolamin, 0.0003 gram; 1 c.c. narcofin, 0.5 grain.

The administration is by hypodermic injections into any part of the body, preferably the arms, injected either separately through the same needle, or by two distinct injections. Of late, for the first dose, or subsequent doses requiring both drugs, I have mixed both in the same syringe and administered at one time.

The indication for the first dose, as followed out in the cases to be reported, was given only after the pains had become well established, of moderate severity, and occurring regularly. This is always early in the first stage of labor as twilight sleep is essentially a first stage procedure and should not be begun if the labor is too far advanced.

When the pains were not occurring with sufficient regularity or intensity, pituitrin was first used to bring the patient into a well-established labor. This state being accomplished, the first dose of scopolamin-narcofin, 15 min. of each, was administered as described above.

I take the liberty here of avoiding the actual figures of dosage of the respective drugs administered, but base the normal maximum dose for one injection at 15 min., or 1 c.c. of the solution contained in the ampules, and when smaller doses are subsequently administered, a fractional part of the 15 min. used as the standard is taken. For example, subsequent doses may be respectively 5, 8 or 10 min. of either solution.

All the patients in the eleven cases first showed evidences of narcosis within thirty to

* Read before the St. Louis Medical Society, May 15, 1915.

forty minutes, the first evidence being a feeling of dizziness, drowsiness, or drunkenness. Within ten to fifteen minutes later the intensity of the suffering was markedly diminished, although the uterine contractions continued regularly and with no apparent lengthening of the interval of rest.

Amnesic tests at this time showed the patient in full possession of her senses even though the intensity of the pains was diminished.

Influenced but not guided by the schedule method of Siegel, the second dose of scopolamin alone, the average of which was 10 min., or two thirds of a full dose, was administered on an average of forty-six minutes later. Within ten to fifteen minutes following the second dose patients became amnesic. This was determined, not by the memory tests, as advocated by the principal investigators, but by simply questioning the patient; the manner of answering, in my opinion, is highly significant of the state of amnesia as her clouded mental state usually fails to bring forth the answer expected.

If after the second dose labor pains show signs of diminishing in frequency or lessening in intensity, pituitrin is relied on to bring about the normal contractions desired. The difficulty I have observed in a few cases is that some patients react to the drugs far more rapidly than others, and in these cases when all suffering is abolished it is hard to believe that uterine contractions are continuing with their former intensity. This is easily determined by placing the hand on the abdomen and feeling the regularity and force of the uterine contractions. In three cases, after the first dose, the patients became so quiet that for over an hour they did not move from their original positions. For this reason I suggest that in the future we shall have to be more careful of our interchangeable terms "contractions" and "pains." Where formerly in obstetrics these words were synonymous, under our present method of twilight sleep they become separate and distinct entities.

In four out of eleven cases in which the third dose was given, the average interval between second and third doses was seventy-eight minutes, against forty-five minutes advocated by the routine method of Siegel. The average third dose of scopolamin was 11 min., and narcofin $7\frac{1}{2}$ min. In one case out of the four no narcofin was administered with the third dose of scopolamin. The fourth dose was given in three cases after an interval of one hour and thirty minutes. The average dose of scopolamin was approximately 11 min., the average dose of narcofin approximately 5 min.

In one case, the duration of which was twenty hours, seven doses of scopolamin were administered, the average dose being approximately

$14\frac{1}{2}$ min. with five doses of narcofin the average dose of which was 11 min. This was fortified with five doses of pituitrin, the average dose of which was 12 min. Even in this case the baby was born after a difficult forceps delivery in a perfectly normal condition as regards its ability to breathe.

The foregoing gives the technic described as accurately as possible as it was carried out in the eleven cases here reported. In the following an attempt will be made to bring before you the essential points of interest described more in detail.

In each case the total average was as follows: Scopolamin 31 min., narcofin 18 min., pituitrin 17 min. The average difference between primiparae and multiparae showed that 4 min. less of scopolamin, 7 min. of narcofin and 13 min. less of pituitrin were administered in multiparae. All cases were individualized.

The initial dose of narcofin was not repeated in seven cases, the average dose being 12 min. The initial dose was repeated in four cases with dosage as follows: 2 cases 15 min., 1 case 27 min., 1 case 58 min.

The first injection of scopolamin-narcofin was instituted after the establishment of regular contractions, when they were beginning to cause discomfort or exciting complaints.

Surroundings such as isolation, semidarkness, and quiet, without doubt assisted in the effectiveness of twilight sleep. This is illustrated by the following: The patient was in a hospital with no one in the room excepting the physician, who was sitting quietly at a table by the bedside observing carefully the actions of the patient. Few complaints were manifested on her part. Labor progressing regularly and quietly. A few minutes later, on leaving the room, the husband was left in charge. Upon the physician's return he found the patient restless, irritated and sitting up in bed complaining of severe pains. On dismissing the husband, quiet was soon obtained by commanding the patient to rest. On questioning after labor concerning this incident the patient was entirely ignorant of the event.

Memory tests were used in most cases, but in such a manner that the patient was little disturbed. This information was obtained merely by questioning her concerning past events. At all times attempts to keep the patient lightly under was aimed at, although in seven out of ten cases practically all pain was abolished. In the three cases remaining, pains were diminished to a great extent, but external evidences of pain were quite marked. No blood pressure readings were made in this series of cases.

As regards the prolongation of the first stage, under scopolamin-narcofin narcosis it has been prolonged little if any, due to the coincident use of pituitrin.

During the second stage of labor there has been noticed a slight delay, beginning just as the head reaches the pelvic floor. In six cases forceps were used to complete the delivery. This is a larger percentage than usually occurs in my practice, but the high percentage was due to the fact that not having perfect confidence in the effect of the narcosis the presenting head offered a great inducement to complete its birth with forceps and thus end the suspense. Even when forceps are not used, as we approach the end of the second stage, which is the most painful period of labor, it is sometimes necessary to use very small amounts of chloroform or ether to complete the twilight sleep. This is not always necessary, but if so, requires very little of the drug and saves the further administration of scopolamin, which would keep the patient asleep for hours after the labor is over.

As regards the third stage of labor, all placentas were delivered by the Credé method within thirty to forty minutes after the birth of the baby. In no case did a postpartum hemorrhage occur or any bleeding out of the normal. In no case was there active delirium or any excitement. No cases of postpartum insanity have been observed.

No maternal or fetal deaths have resulted during or after the period of this narcosis.

As regards sepsis, in one case, where enormous doses of both scopolamin and narcofin were used, the patient on the third day developed a chill followed by fever, in which the temperature ran a mysteriously high, intermittent course. Sepsis was naturally looked for, but careful investigations, including negative blood cultures and other procedures, proved the case negative. On about the sixth day of the fever a final diagnosis of a unilateral pyelitis was made.

At no time have any dangers of any kind to the mother been observed. In regard to cervical tears being less frequent in primiparae under twilight sleep little can be said.

I have not allowed early rising (third to fifth or seventh day), as advocated by Gauss, even though the patient appears to be perfectly capable of rising at that time. In my opinion, in this age of nervous activity, the rest of ten to fourteen days that can be enforced on the mothers at this time is highly beneficial and is difficult to obtain at any other period.

The average number of hours for primiparae under twilight sleep was five hours and fifty-one minutes, including one case of twenty hours. Excluding this unusually long case the average for the remainder was three hours and forty-four minutes. The multiparous average length of time was three hours and eighteen minutes.

Spontaneous vertex deliveries occurred in primiparae three times, in multiparae twice. Forceps in primiparae six times, with no for-

ceps occurring in multiparae. No breech deliveries were made.

The forceps deliveries were indicated in most cases by the head refusing to make further advance after it had reached the pelvic floor; in one case due to the fetal heart reaching 150, having been normal at 120; and in another case on the appearance of meconium in the amniotic fluid. The forceps deliveries were all, with one exception, of the low type, in which a medium high extraction was accomplished on an unrotated head in the right occipitoposterior position.

Perineal lacerations of the second degree resulted in six out of eight primiparae, with none occurring in multiparae; this does not bear out the usual claims made for relaxed perineums observed by other obstetricians using the Dämmerschlaf.

Regarding perineal repairs under twilight sleep, the success or failure here depends on the amount of narcosis existing at the time.

In regard to the condition of babies at birth, the cry was spontaneous or only slightly delayed, with one exception, in which a slight degree of oligopnea was present, but was soon overcome by alternating hot and cold baths. In this case the meconium had appeared in the amniotic fluid before delivery, which was the indication for the use of the forceps. No asphyxiated, apneic or still-born babies were delivered. No babies died later during the puerperium.

Complete amnesia was obtained in six cases, partial in two cases; analgesia without complete amnesia in two cases and one failure. In the latter case the patient had one injection of scopolamin and narcofin thirty minutes before the delivery occurred, which did not allow sufficient time for the action of the drugs, the patient sleeping quietly and peacefully for two hours and thirty minutes following delivery.

In the two cases of analgesia without complete amnesia the patients also received only one dose, which did not cause the amnesia wished for, as the baby was born before the second dose could be administered.

In conclusion, I feel that twilight sleep well deserves a place in obstetrics. Statistics have shown that a practically painless labor results in 85 per cent. of cases in which it is used. In the small remaining percentage we may not obtain the complete amnesia and perhaps may be only partially successful, yet we have at least mitigated the anguish of labor and prevented exhaustion.

The contraindications are few. It is proving itself a safe procedure by individualizing the patient. Only in the schedule methods have unfavorable results been obtained. In no other branch of medicine has a schedule dosage for any condition been empirically laid down for all patients. Why should it be done here?

The greatest benefits are obtained in the highly nervous patients, just where it is most needed. It makes for better obstetrics, as the personal equation of the doctor conducting twilight sleep is important if the best results are to be obtained.

We must learn that its disadvantages are slight and that these may be overcome by a further knowledge of the method, by a closer attention to detail, and by the perfection of the technic.

Metropolitan Building.

OBSERVATIONS ON THE USE OF SCOPOLAMIN-NARCOFIN DURING LABOR

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From Harvey's circulation of the blood and Jenner's vaccination to the twilight sleep of Kroenig and Gauss, every important medical discovery or therapeutic innovation has had to pass through an initial stage in which an enthusiastic and not always critical minority tried to wrest recognition from an indifferent, sceptical, or even hostile majority. This scepticism has often retarded progress and often it has acted as a safety brake upon misdirected zeal, and thus in its last analysis it has represented a sure, though very slow procedure of separating the grain from the chaff.

Only when the public at large has taken an active part in the discussion of new medical topics has the decision been reached more quickly. That was the case sixty years ago when the public broke down the opposition, both active and passive, on the part of the medical profession, which Simpson had vainly endeavored to convince of the value of chloroform in obstetrical work. And today we see the same story reenacted. The scopolamin narcosis in childbirth was not an entirely new procedure. Gauss had already put several thousand cases on record, and to those who were at all versed in gynecologic and obstetric literature the term "twilight sleep" was familiar. Yet, with the exception of sporadic and rather abortive attempts, the method had no adherents in our country, and even Kroenig's appeal in Chicago, November, 1913, found practically no response until a sensational but cleverly written article in a popular magazine a year ago fired the imagination of the masses. What has happened since then is history too recent to require reiteration. Both the medical and lay press are now full of discussions of a topic which has suddenly become a burning one, and the bulk of practitioners without personal experience find themselves bewildered and hesitating be-

tween the superlative claims of those who hail the twilight sleep as the ideal mode of deliverance from pain and the solemn warnings of others who predict ultimate failure of the method as the result of numerous dangers to mother and child.

Primarily with the view of gaining an opinion of our own, we decided about half a year ago to apply the method on our material at the City Hospital, and to determine in how far the scopolamin narcosis was suitable in normal childbirth. Mr. F. E. Chapman, superintendent of the City Hospital, at once realized the practical importance of such an investigation and not only appropriated a certain sum of money with which to buy a limited supply of the drugs required, but also aided us throughout by his sympathetic and intelligent understanding. Our material, at no time very large, was still further reduced by the following considerations: (1) We selected, as far as possible, primiparous women, as in these the longer duration of labor would afford us more ample opportunity to study the effect of scopolamin. Moreover, the pain of first labor is normally greater than that at subsequent labors, so that analgesia of hypalgesia if at all present would become more evident. (2) For the same reasons we excluded cases of premature childbirth and selected only cases at or near full term. (3) From the number available we singled out those in whom temperature, pelvic measurements, and the position of the child showed no abnormalities, lest our ultimate findings be affected by existing abnormal conditions. (4) The majority of obstetric patients enter the City Hospital in labor. With but two exceptions we excluded this class of patients and preferred to utilize only the few women awaiting their confinements in the hospital so as to have sufficient time for the necessary preliminary examinations mentioned above. (5) We administered scopolamin only to white women. Many of our colored patients are syphilitic and for that reason are apt to give birth to babies stillborn or too weak to live. In view of the alleged mortality of new-born children from scopolamin, a coexisting syphilis would obviously vitiate any conclusions.

For these reasons the material at our disposal became necessarily greatly reduced and we can report today only fifteen cases, to which three cases have been added from our private practice. We fully realize that this number is much too small to permit of any definite conclusions and that it can merely be utilized in connection with existing larger statistics.

In the determination of the technic to be carried out the expression of opinion in recent American literature demanded consideration. All authors agreed that only by rigid adherence to the original technic of Gauss can satisfactory results be achieved. This technic as laid down in numerous publications consisted, briefly, in the hypodermic injection of about $\frac{1}{440}$ grain of

scopolamin and $\frac{1}{6}$ grain of morphin. For the latter pantopon was substituted later and still more recently narcofin, a synthetically prepared opiate which is supposed to have a less depressing influence upon the respiratory center. About one hour later the injection of scopolamin was repeated, after which a condition of somnolence occurred in which a dimness of memory was the most noticeable feature. The patient could not remember having seen an object which had previously been shown to her, or recall former manipulations or procedures such as hypodermic injections, or recollect any conversation she may have had with the attending physician some time previously. As long as this state of amnesia lasted no further injections were given. Otherwise scopolamin in equal or smaller dosage was injected, almost always without morphin. The latter was added only if the pain became too intense and threatened to break through the barrier of somnolence. Gauss himself characterized this technic as complicated and making extraordinary demands upon nurses and physicians and as such impressed one of us (Gellhorn) when he visited the Freiburg clinic in the summer of 1912.

The difficulties of proper individualization in a large material induced Kroenig and Gauss to simplify and standardize their method and the technic used and observations made on 220 cases were published by Siegel, one of their assistants, about a year ago. In this modified method the memory test was given up as superfluous and not always conclusive. Instead of varying the dosage of scopolamin by a subjective and therefore not wholly dependable determination of the depth of the twilight sleep, definite instructions as to the frequency and dosage of scopolamin were given. The addition of narcofin was clearly specified as to number and maximum dose. A schedule was worked out as follows:

In the beginning, scopolamin 1.5 c.c., or $\frac{1}{133}$ gr., and narcofin 1 c.c., or $\frac{1}{2}$ gr. After $\frac{3}{4}$ hr., scopolamin 1.5 c.c., or $\frac{1}{133}$ gr. After $1\frac{1}{2}$ hrs., scopolamin 0.5 c.c., or $\frac{1}{400}$ gr., and narcofin 0.5 c.c., or $\frac{1}{4}$ gr. After 3 hours, scopolamin 0.5 c.c., or $\frac{1}{400}$ gr. After $4\frac{1}{2}$ hrs., scopolamin 0.5 c.c., or $\frac{1}{400}$ gr. After 6 hrs., scopolamin 0.5 c.c., or $\frac{1}{400}$ gr., and narcofin 0.5 c.c., or $\frac{1}{4}$ gr. After $7\frac{1}{2}$ hrs., scopolamin 0.5 c.c., or $\frac{1}{400}$ gr. After 9 hrs., scopolamin 0.5 c.c., or $\frac{1}{400}$ gr. After $10\frac{1}{2}$ hrs., scopolamin 0.5 c.c., or $\frac{1}{400}$ gr., and narcofin 0.5 c.c., or $\frac{1}{4}$ gr.

This procedure is continued every one and one-half hours scopolamin 0.5 c.c., every third dose of scopolamin to be combined with 0.5 c.c. of narcofin.

The results obtained were most satisfactory and must have remained so, for no further publication has since been issued from the Freiburg clinic.¹ In comparing the original with

the latter procedure the distinctions made by most American authors in claiming successes only for the first mode, and laying failures at the door of the second mode, have seemed to us like splitting hairs, and we have believed we are unable to improve on what the originators of the method themselves have considered preferable. It was for this reason that we based our observations exclusively upon the Siegel modification of the Gauss method.

TABLE 1.—DATA CONCERNING OUR PATIENTS

Case No.	Age	Para	Weeks of Gestation	Nationality
1.....	19	I	40	American
2.....	25	I	40	Russian
3.....	21	II	40	Irish
4.....	18	II	40	American
5.....	20	I	38	German
6.....	22	III	38	English
7.....	19	I	40	American
8.....	29	V	40	German
9.....	19	I	40	Hungarian
10.....	33	III	40	American
11.....	18	I	40	American
12.....	19	I	40	American
13.....	20	I	40	American
14.....	21	I	40	American
15.....	24	II	38	American
16.....	31	I	40	American
17.....	33	I	40	American
18.....	19	I	40	American

Table 1 shows at a glance the character of our material. The pelvic measurements in these patients were normal with the exception of No. 16 who had a generally contracted pelvis of slight degree. In all eighteen cases the head presented, in three the occiput had rotated posteriorly.

In conformity with Gauss and all other observers, the scopolamin-narcofin narcosis was not instituted until after labor was well established and Table 2 shows the duration, frequency, and intensity of the uterine contractions during the last hour preceding the first injection.

It is obvious from the above that the uterine contractions are not weakened, but on the whole are more frequent and more intense. This table, on a small scale, bears out the observations of Beruti made on 591 cases. That author found the contractions during the first stage not altered in 477 cases, or 80.73 per cent.; weakened for a short time, 71, or 12.01; moderately weakened, 26, or 4.39; distinctly weakened, 17, or 2.87; a total of 43 cases, or 7.26 per cent. The influence of the seminarcofin manifests itself in the duration of labor as shown in Table 3. For the sake of convenience the age of the patient and the number of confinements have been repeated. By eliminating No. 6 and No. 16, in whom accurate data are not at hand, we find that the average length of the entire labor in sixteen cases was

1. It is true that both Kroenig and Gauss have been called to the field of battle ever since the outbreak of the war, but anybody who knows conditions in German university hospitals and in particular is familiar with the splendid team work in the Freiburg clinic must realize that Siegel's publication has been passed and sanctioned by his superiors.

14 hr. 24 min., while Gauss in 1,000 cases computed 16 hr. 12 min. Counting primiparous women alone, Gauss computed: 18 hr. 21 min.; Beruti, 19 hr. 22 min.; Kleinertz, 19 hr. 48 min. Inasmuch as the average length of first labor is generally supposed to be between 18 and 19 hours, it is seen that the twilight sleep

accustomed to see. This is obviously due to the fact that the action of the abdominal walls is not sufficiently called into play. If the twilight sleep is rather deep the patients must be told when to bear down and even then their exertions are not energetic. In the majority of instances, however, this circumstance is not

TABLE 2.—FREQUENCY, DURATION, AND INTENSITY OF UTERINE CONTRACTIONS BEFORE AND AFTER INDUCTION OF TWILIGHT SLEEP

	Before		After						
	Frequency in Last Hour, in Min.	Duration in Seconds, Intensity	1 hour	2 hours	3 hours	4 hours	5 hours	6 hours	7 hours
1	8	—	5-8 min. (40 sec., med.)	3-5 min. (60 sec., hard)	2 min. (hard)				
2	3-4	40	4-5 min. (30 sec., med.)	2-4 min. (40 sec., hard)	2 min. (60 sec., hard)				
3	6-8	30	3-8 min. (45 sec.)	4-8 min. (60 sec., hard)					
4	3	15-20	3 min. (15-60 sec.)	3 min. (15-60 sec.)	2 min. (60 sec.)				
5	5-6	30-60	5 min. (30-60 sec.) hard	3 min. (30 sec.) hard	10 min. (30 sec.) hard	7 min. (60 sec.)	.....	.....	2 min. (60 sec.) hard
6	5	20-40	3-5 min. (20-40 sec.) fairly hard	3-4 min. (30-90 sec.) hard	.....	5-8 min. (60 sec.) strong	2 min. very strong		
7	8-13	fairly strong	10 min. (2 min.) very hard	7 min. (40 sec.) strong	5 min. (2 min.) very hard	3-5 min. — very hard	.....	5 min. (50 sec.) fairly hard	
8	3-5	15-30 hard	3 min. (15-30 sec.) milder	5 min. (30 sec.) hard	.....	3 min. (1 min.) hard			
9	5	—	3 min. (1 min.) hard	2-3 min. — hard and expulsive					
10	3-12	hard	7-10 min. hard	3-7 min. moderate	.....	3-5 min. moderate	.....	3 min. hard, expuls.	
11	10	hard	.....	.....	4 min. (30-40 sec.) moderate	(60 sec.) strong	.....	.....	(60 sec.) hard
12	3-4	hard	3-5 min. hard	.....	2 min. (1 min.) hard	.....	.....	3-5 min.	(60 sec.) hard
13	3	(60) hard	3 min. (60 sec.) hard	3 min. (60 sec.) hard					
14	5-10	30, fairly strong	3-4 min. (20-45 sec.) moderate	2-5 min. moderate	.....	3 min. (30-60 sec.) hard			
15	2-4	30-60	2 min. (60 sec.) hard	(60 sec.) hard	.....	2-4 min. hard	1-5 min. hard, expuls.		
16	3-4	30-40	3-7-10 min. (45-60 sec.) hard	10 min. (25-60 sec.)	.....	.....	1-4-10-30 min. (30-60 sec.) growing feeble		
17	5-10	fairly hard	.....	.....	7-8 min.	(60-90 sec.) — severe			
18	10	fairly strong	3-7 min. hard	2 min. (60 sec.) hard	2-5 min. (60 sec.) hard				

prolongs, if at all, the process of delivery but very slightly. We can only agree with Polak, Knipe, and other American and German observers that the first stage of labor is slightly shortened and that some delay occurs only in the second stage. The head seems to rest longer on the perineum than we have been

sufficiently important to consider it a serious disadvantage and can readily be compensated, as we shall see later, by the injection of pituitary substance.

The duration of the third stage in our cases showed no departure from the normal mechanism. The placenta was expelled spontaneously

in two cases; in twelve cases a slight pressure upon the fundus sufficed to expel the placenta from the vagina, and only in three instances did we resort to the Credé method. It might perhaps have been possible in two of these cases to wait a little longer, but after all we see no contraindication to the use of this method if properly carried out.

The amount of bleeding in our cases after the expulsion of the placenta was, on the whole, within the usual limit. The hemorrhage is designated as copious in three cases but even

used.² Our figures closely coincide with those of Beruti, who in 600 cases also had an average of five scopolamin injections.

The behavior of our patients during twilight sleep is shown in Table 4. The effect of the first injection as a rule was not pronounced except in three patients, who very quickly became drowsy and apathetic. The soporific influence was usually not observed until after the second or third injection. It is for this reason that the twilight sleep should not be administered if the termination of labor is expected in

TABLE 3.—INFLUENCE OF SCOPOLAMIN-NARCOFIN NARCOSIS UPON PROGRESS OF LABOR

Case	Age	Para	Hours After Onset of Labor of First Injection	Number of Injections		End of First Stage, Hours After First Injection	End of Second Stage in Hours and Minutes	End of Third Stage, Minutes	Placenta Expelled	Hemorrhage
				Scop.	Narc.					
1.....	19	I	2½	4	2	3	1:05	25	Credé	Sli.
2.....	25	I	12	4	2	3:45	1:20	30	Sl. pr.	Cop.
3.....	21	II	9	3	2	1:45	15	30	Spont.	Sli.
4.....	18	II	9	3	2	2:08	20	30	Sl. pr.	Sli.
5.....	20	I	4¾	7	3	9	2:15	18	Sl. pr.	Scan.
6.....	22	III	"soon after"	6	3	6	50	6	Spont.	?
7.....	19	I	6	11	4	13:30	1:25	30	Sl. pr.	Mod.
8.....	29	V	3	4	2	6	50	20	Credé	Mod.
9.....	19	I	8½	3	2	1:45	1:30	23	Sl. pr.	Sent.
10.....	33	III	12	6	3	6:30	1	35	Sl. pr.	Sent.
11.....	18	I	3	6	3	9	1:25	23	Sl. pr.	Mod.
12.....	19	I	12	7	3	21:25	36	21	Sl. pr.	Mod.
13.....	20	I	12	2	1	1:54	20	23	Sl. pr.	Mod.
14.....	27	I	14	4	2	4:15	35	42	Credé	Sli.
15.....	24	II	6½	4	2	6:45	1:03	17	Sl. pr.	Cop.
16.....	31	I	6	5	3	*				
17.....	33	I	2	4	2	4:15	1:40	16	Sl. pr.	Cop.
18.....	..	I	8	4	2	3:40	1:15	17	Sl. pr.	Sli.

* Discontinued after 24 hours.

TABLE 4.—BEHAVIOR OF PATIENT DURING TWILIGHT SLEEP

Case No.	Amnesia	Analgesia	By-Effects
1.....	Complete.....	Nearly complete.....	Restless; talks incoherently
2.....	Complete.....	Satisfactory.....	Twitching of muscles
3.....	Complete.....	Complete.....	Face flushed; twitching of muscles
4.....	Incomplete.....	Incomplete.....	Excited; twitching
5.....	Incomplete.....	Incomplete.....	Face flushed; vom. twice; twitching
6.....	Complete.....	Complete.....	Flushed; irrational twitching
7.....	Absent.....	Absent.....	None
8.....	Complete.....	Complete.....	Twitching
9.....	Complete.....	Nearly complete.....	Flushed; vomiting; twitching
10.....	Complete.....	Complete.....	Vomiting; irrational
11.....	Complete.....	Partial.....	Vertigo; twitching
12.....	Complete.....	Complete.....	Twitching
13.....	Incomplete.....	Absent.....	Irrational; nauseated; twitching
14.....	Complete.....	Incomplete.....	Twitching; nauseated; flushed
15.....	Complete.....	Incomplete.....	Twitching
16.....	Absent.....	Satisfactory.....	Twitching, vomiting
17.....	Absent.....	Satisfactory.....	At times irrational, flushed
18.....	Complete.....	Partial.....	Irrational; twitching

in these the loss of blood was not exceptionally great. At any rate atony of the uterus was not observed. Neither had Polak a case of atony among his 155 patients. Beach, in studying 1,000 cases, found atony recorded in 1.7 per cent. when scopolamin had not been used, as compared to 0.8 per cent. in the twilight sleep cases.

The average number of injections in our cases was five of scopolamin and three of narcofin, and a comparison with the schedule of Siegel yields the exact amount of both drugs

less than one or one and one-half hours. The behavior of our patients closely corresponded to that described by Gauss and his followers. Patients do not notice the approach of the contraction, but at the height of the pain they moan, cry out, roll about, or even sit up in bed. As soon as the contraction relaxes they sink back into deep or stertorous sleep from which, in some instances, they may be roused to answer questions. We ascertained the state of amnesia more as a matter of interest

2. We shall show later that in daily practice a much smaller number of injections is sufficient.

and found it to be present in twelve of eighteen cases. In the three cases in which amnesia was noted as incomplete at the time, we found that the patients remembered nothing when questioned the next day. In three other cases the sensorium remained altogether free, but the sensibility to pain was reduced satisfactorily in two of them. Only in one case (No. 7) did the twilight sleep prove an absolute failure. In all the other cases there was either a state of analgesia or hypalgesia achieved. We believe that for practical purposes hypalgesia is sufficient, because this class of patients while complaining of pain at the time will declare on the following day that they have felt no pain.

One must not expect twilight sleep to be a success in all cases. Gauss himself had failures in about 20 per cent. of his cases—a small percentage indeed if we take into consideration the comfort the other 80 per cent. have derived.

irritants, such as unavoidable sounds and noises due to the presence of many people, can be eliminated. Bright light is another irritant hence the postulate of Gauss to keep the patient in a semidark room. Thanks to the cooperation of the superintendent, we had at our disposal a separate room with dark window shades to keep out the daylight and blue glass globes to dim the electric light. But the advantage gained in this way was lost when we transported the patient, by means of a stretcher, to the brightly lighted delivery room. Then, too, our City Hospital is by no means a quiet place. Bells were ringing, doors slammed, babies cried; and the cotton pledgets, saturated with oil, which we kept in the ears of our patients, did not always remain in place and keep out undesirable sounds. It is, therefore, doubly noteworthy that in spite of all, only one case failed to respond to the injection and since in this case none of the usual by-effects was noted

TABLE 5.—EFFECT OF INJECTIONS ON BLOOD PRESSURE

Case	Before Delivery	During Labor				
		After 1 Injection	After 2 Injections	After 3 Injections	After 4 Injections	After 5 Injections
1.....	145/95, 135/95	145/95	155/90	.....	.....	.....
2.....	105/80	105/80	.....	.....	142/86, 146/86	.....
3.....	130/90	.....	140/85	.....	.....	.....
4.....	124/89	.....	.....	140/96	.....	185/105
5.....	140/95	.....	.....	145/100	.....	.....
6.....	108/54	.....	.....	105/65	.....	.....
7.....	125/85	.....	125/98	.....	135/100	.....
8.....	.....	.....	.....	130/100	.....	.....
9.....	110/85	.....	.....	140/130	.....	.....
10.....	125/90	.....	135/85	.....	.....	135/75
11.....	110/90	.....	.....	.....	110/89	.....
12.....	110/90	.....	128/98	.....	.....	.....
13.....	100/85	Not taken	.....	.....	.....	.....
14.....	110/90	Not taken	.....	.....	.....	.....
15.....	.....	Not taken	.....	.....	.....	.....
16.....	130/85	135/65	.....	.....	After 7 Injections	105/60
17.....	Not taken	.....	.....	.....	After 10 "	110/65
18.....	145/95	.....	.....	130/90	.....	.....

It is true that inexperienced observers, family members for instance, might consider the percentage of failures even higher than 20 per cent., for most patients exhibit by-effects which seem to contradict the term twilight sleep. We almost always observe as the first sign of the narcosis the flushed face, which is associated, as the number of injections increases, with a twitching of the muscles of both arms and legs. Many patients mutter in their somnolent condition or talk incoherently, even become irrational or very much excited and noisy. While the patients themselves are not conscious of these symptoms the onlooking family members might be alarmed and might interfere with the continuation of the narcosis. It is advisable therefore to warn the family in advance of such by-effects and to insist on their staying away from the delivery chamber. Their absence is desirable for other reasons as well, for it goes without saying that the drugs injected will have a deeper and more lasting effect if all external

we are inclined to think that this woman had a natural tolerance to the drugs used.

The physiologic action of scopolamin upon animals and human beings has been thoroughly studied for many years. Table 5 shows the effect of injections upon the blood pressure.

We know that the blood pressure during labor increases physiologically 15 to 20 mm. and the table above shows that it is not markedly changed after the injection. Two cases show a slight reduction too insignificant for any conclusions.

The poisonous effect upon the maternal organism would quickly demonstrate itself in the condition of the renal secretion.

Table 6 shows a slight decrease in the amount secreted, which very likely is due to the fact that the patients did not take as much water, while the qualitative tests failed to show any changes. Case 5, with its abnormal findings, must be eliminated because of the history of a former nephritis and in case 16 the appear-

ance of albumin may perhaps be explained by the excessive exertion of labor.

It has already been mentioned that the slight prolongation due to the twilight sleep might successfully be overcome by the administration of pituitary extract, as shown by Table 7.

Weak contractions, as an indication for pituitary extract, is noted in this table but four times, while in six cases this drug was injected to shorten the duration of labor. It must be stated, however, in this connection, that we

and forceps were used without any stringent indication.

The number of lacerations is not unusually high. The tear in Case 13 was due to the fact that the patient became unmanageable for a short time so that the perineum could not be sufficiently protected either manually or by means of an episiotomy.

For the sake of comparison it may be said that Polak applied (low) forceps in nine out of 155 cases; most of these were primiparae.

TABLE 6.—SHOWING CONDITION OF URINE BEFORE AND AFTER TWILIGHT SLEEP DELIVERY

Case No.	Before		After	
	Quantity c.c.	Quality	Quantity c.c.	Quality
1.....	1,450	Normal	1,200	Normal
2.....	1,400	Normal	900	Normal
3.....	1,200	Normal	1,000	Normal
4.....	1,250	Normal	900	Normal
5.....	?	Old nephritis (scarlet fever)	1,400	1st and 2d day: albumin, casts, red and white blood corpuscles; 3d to 14th day: trace of alb., no casts
6.....	?	Normal	?	Normal
7.....	?	Normal	600	Normal
8.....	?	Normal	1,200	Normal
9.....	?	Normal	1,400	Normal
10.....	?	Normal	?	Normal
11.....	1,500	Normal	1,200	Normal
12.....	1,250	Normal	1,250	Normal
13.....	?	Normal	3,000 (1st day) 1,000 (2d day) 900 (3d day)	Normal
14.....	?	Normal	1,200	Normal
15.....	?	Normal	?	Normal
16.....	?	Normal	1,150	Albumin, casts after twenty hours of twilight; a few casts on 4th day
17.....	?	Normal	3,090 +	Normal
18.....	?	Normal	?	Normal

TABLE 7.—SHOWING EFFECTS OF COMBINATION OF SCOPOLAMIN-NARCOFIN NARCOSIS WITH OTHER DRUGS

Case	Pituitary Extract	General Anesthetic	Method of Delivery	Laceration
1.....	None	Chloroform, dr. II.....	Forceps	First degree
2.....	None	None	Spontaneous	First degree
3.....	m V, end of 2d stage.....	None	Spontaneous	None
4.....	None	Chloroform, dr. I.....	Spontaneous	None
5.....	m V, end of 2d stage.....	Ether, oz. ½.....	Spontaneous	Episiotomy
6.....	None	Chloroform, dr. ½.....	Spontaneous	None
7.....	m VII, end of 2d stage.....	Chloroform, dr. 1½.....	Spontaneous	Episiotomy
8.....	None	None	Spontaneous	None
9.....	None	Chloroform, dr. II.....	Spontaneous	None
10.....	m VI, twice, weak contract.....	None	Spontaneous	First degree
11.....	m VIII, twice, weak contract.....	Chloroform, dr. ½.....	Spontaneous	Episiotomy
12.....	m VIII, end of 2d stage.....	Chloroform, dr. 1½.....	Forceps	None
13.....	None	None	Spontaneous	Second degree
14.....	None	Chloroform, dr. I.....	Spontaneous	First degree
15.....	m VIII, weak contract.....	Chloroform, dr. I.....	Forceps	None
16.....	m V, twice, weak contract.....	Ether, oz. VII.....	Cesarean	None
17.....	m XV, end of 2d stage.....	Ether, oz. II.....	Forceps	Second degree
18.....	m VII, end of 2d stage.....	Chloroform, dr. II.....	Spontaneous	First degree

have used pituitary extract just as frequently at this stage of labor before we ever began to apply the scopolamin narcosis, for we consider the pituitary substance an invaluable adjunct to shorten labor.

In thirteen cases chloroform or ether was given during the passage of the head over the perineum and we have noticed that a very small amount of the anesthetic was required, even in the four cases in which the forceps were applied. These four were low forceps cases

Beach compiled statistics on forceps in two series of 1,000 cases each and found the following:

WITH TWILIGHT SLEEP

Forceps were used in 16.2 per cent.
Of these, high or medium was..... 6.8 per cent.
Low was 21.4 per cent.

WITHOUT TWILIGHT SLEEP

Forceps were used in 14.1 per cent.
Of these high or medium was 15.8 per cent.
Low was 15.6 per cent.

This very noteworthy juxtaposition fully bears out some of the statements made above. The number of forceps cases is increased by 2.1 per cent. when twilight sleep is administered. But the first stage of labor is so greatly benefited by the existing hypalgesia that the number of high and medium forceps cases is reduced by more than one-half, while the number of low forceps cases is increased almost 6 per cent. Any method which enables us to restrict the use of the high and medium forceps with its unavoidable traumatism to both mother and child constitutes, in our opinion, an

for from 12 to 14 days merely in order to give these women a much needed rest. There has been no death among our patients and that possibility need not be feared, for in all the thousands of cases reported by Gauss and his followers not a single fatality has occurred; the case of death published by Hocheisen in 1906 is still the only one on record. All our patients left the hospital in perfect health with the exception of Case 12. This patient had an exacerbation of an old cholecystitis. Our observations of the absence of any late effects of scopolamin are in accord with all other ob-

TABLE 8.—SHOWING EFFECTS OF SCOPOLAMIN NARCOSIS ON PUERPERIUM

Case No.	Days in Bed	After-Pains	Involution	Lactation	Morbidity
1.....	13	Absent	Normal	Normal.....	None
2.....	13	Absent	Normal	Normal.....	None
3.....	13	Slight	Normal	Normal.....	None
4.....	13	Moderate	Normal	Normal.....	None
5.....	13	Absent	Normal	Normal.....	None
6.....	13	Severe on second day	Normal	Normal.....	None
7.....	13	Absent	Normal	Normal.....	None
8.....	13	Severe for three days	Normal	Normal.....	None
9.....	13	Absent	Normal	Normal.....	None
10.....	13	Slight	Normal	Normal.....	None
11.....	13	Absent	Normal	Normal.....	None
12.....	19	Absent	Normal	Normal.....	Cholecystitis
13.....	13	Absent	Normal	Normal.....	None
14.....	13	Absent	Normal	Normal.....	None
15.....	13	Present, not severe.....	Hastened	Normal.....	None
16.....	14	Absent	Normal	Normal.....	None
17.....	12	Slight	Normal	Normal.....	None
18.....	13	Absent	Normal	Normal.....	None

TABLE 9.—SHOWING EFFECT OF SCOPOLAMIN-NARCOFIN NARCOSIS ON THE CHILD

Case	Heart Beats Before and During Narcosis		Initial Weight	Condition at Birth	Alive and Well After Two Weeks
1.....	...	...	6.8	Asphyxiated; swinging.....	Yes
2.....	144	130	7	Asphyxiated; swinging.....	Yes
3.....	...	...	5.14	Cried at once.....	Yes
4.....	144	144	8.4	Cyanotic; ext. stimulation.....	Yes
5.....	144	144	6.8	Apneic; swinging.....	Yes
6.....	140	144	6.2	Cried immediately	Yes
7.....	144	144	8.5	Cried immediately	Yes
8.....	144	144	9.6	Cried immediately	Yes
9.....	...	...	6.14	Cried immediately	Yes
10.....	140	128-168	8	Apneic; ext. stimulation.....	Yes
11.....	144	132-144	7.2	Cried immediately	Yes
12.....	144	120-144	6.3	Asphyxiated; swinging	No
13.....	144	132-144	6.6	Cried immediately	Yes
14.....	144	120-144	6.13	Cried immediately	Yes
15.....	144	120-168	5.8	Cried immediately	Yes
16.....	132	140	8.6	Cried immediately	Yes
17.....	...	...	8.1	Cried immediately	Yes
18.....	144	132	8.4	Cried immediately	Yes

immense advantage to the patient. The low forceps, on the other hand, has practically no danger and is often applied more for the sake of convenience or luxury, as the Germans phrase it, and its increased percentage in twilight sleep cases must be judged differently from the high forceps.

Table 8 shows the effect of scopolamin narcosis on the puerperium and demonstrates at a glance the absence of any untoward effects. There is nothing in the occurrence of the after-pains and in the course of involution and the lactation that in any way differs from the physiologic type. We kept our patients in bed

servers. The alleged mental disturbances have been found on closer scrutiny to have been unfounded newspaper statements.

Throughout this whole controversy as to the merits or demerits of scopolamin narcosis the effect upon the child has occupied the center of interest. Our own observations are recorded in Table 9.

We see in Table 9 that the narcosis has had practically no effect on the heart beats, for such alterations as are here recorded may be observed under any circumstances. The initial weight has been added in order to show that our children were well developed and, with the

exception of a very few, weighed more than the average child. Of the eighteen children, twelve cried immediately after birth, two were cyanotic, but breathed on external stimulation, while four were apneic or asphyxiated and swinging had to be resorted to. All children were revived and developed splendidly with the exception of No. 12; this was the child of the woman with cholecystitis and it died after nine days apparently from an infection.

We again quote from Beach:

Condition of Baby	With Twilight Sleep Per Cent.	Without Twilight Sleep Per Cent.
Spontaneous cry.....	79.9	78.6
Oligopnea.....	14.6	5.8
Induced cry.....	—	9.4
Asphyxia.....	3.6	3.6
Stillborn.....	1.9	2.5
Number of deaths within 15 days (including stillbirths)...	39	49

Beruti reports 609 children born in twilight sleep. Of these, 602 were born alive, seven born dead. Of the 602 living children, 461 cried at once; of these, seven, among them five premature, died in three days; 102 were oligopneic, and of these, two died, both premature; eight were apneic; none died; thirty-one were asphyxiated; of these, nine died in three days. That is to say, of 602 children, eighteen died within three days. If we deduct seven premature babies, there were eleven deaths in 595 cases. In view of the two extensive statistics presented above, it seems far-fetched to speak of an infanticide effect of the scopolamin narcosis. It may be well to remember that we have seen asphyxiated or oligopneic babies after chloroform or ether even before the days of twilight sleep and that fetal death has always occurred in a certain percentage of cases under apparently normal circumstances and without any tangible cause.

In summing up we must admit that we have approached our work in a spirit of scepticism; but this had gradually subsided as our familiarity with the method increased. We believe that the alleged dangers to the mothers are theoretical rather than real, for the method seems to have no mortality and no effect upon the morbidity of the mother. Delay in the progress of labor is on the whole insignificant; it is more especially noticeable in the second stage and can be combated by the judicious use of pituitary preparations. Writers in popular magazines have hailed the twilight sleep as a panacea. This, undoubtedly, is untrue. Gauss himself claimed success only in about 80 per cent. Failure depends upon various factors. Most prominent among these is the fact that twilight sleep is only available if there is sufficient time for the drugs to act. A suitable

milieu is another indispensable premise for success. This should preferably be a hospital, but the desired quietude and absence of external irritations may equally well be procured in a well-appointed household. The family should, however, be warned that scopolamin may produce a stage of excitement which, while terrifying to the inexperienced bystander, is not detrimental to the patient.

We are not convinced that the new born is *ipso facto* jeopardized by the twilight sleep of the mother, yet we will admit that both scopolamin and narcofin are poisons which may perhaps endanger the delicate fetal organism if used indiscriminately.

It seems to us that this is the salient point of the entire controversy. The drugs used are poisons, like many of our other therapeutic agents. If used cautiously and intelligently they are harmless for both mother and child; if used improperly they may do harm to both. It follows, then, that only normal mothers should be subjected to twilight sleep. Let us always bear in mind that this narcosis has been devised only for normal childbirth and that cases of precipitate labor, women with primary inertia, contracted pelvis, placenta praevia, and anemic or toxic patients should be excluded. On the part of the child, a prolapsed cord or a dead or dying baby should be contraindications lest the method be unjustly held to account.

On the other hand, experience has shown that nervous and weak women and patients with cardiac or pulmonary lesions who badly stand the strain of labor are materially benefitted if the pain of delivery is eliminated.

But the greatest prerequisite for success is obstetric skill and judgment. The man who undertakes this form of obstetric narcosis must not only be willing to keep his patient under constant supervision, he must also be an experienced obstetrician. He must be able to make an exact obstetrical diagnosis and form his decisions at every stage of the process. Without these premises the injection of the two drugs becomes a mechanical procedure and may eventually be a bane rather than a blessing to suffering womankind.

It is true that twilight sleep is not universally applicable and is somewhat complicated and may yet have to give way to a simpler procedure. But thus far it has come nearer than any previous method to the goal of countless generations to render childbirth safe and painless.

Since the above was written, we have continued the use of scopolamin and narcofin in our private practice and have become even more convinced that the claims of Kroenig and Gauss are true. We have also made the observation that very much smaller doses of both drugs were needed than the ones employed in our investigations and we have come to look

upon the schedule of Siegel as the *maximum* dosage which may be used with safety. We found that in more favorable surroundings than those the City Hospital could offer we needed, on an average, only three injections of scopolamin and one of narcofin in order to successfully conduct labor. There was this fundamental difference, that in our City Hospital series we have aimed at producing analgesia while in our private cases we have contented ourselves with securing a state of hypalgesia which rendered them comfortable at the time and left but a hazy recollection of their experiences. We have discarded the memory test during labor altogether and by placing the patient on her delivery bed at the beginning of the twilight sleep we have prevented the annoying disturbance caused by the change of position. In a few cases we have, at the end of the second stage, employed local anesthesia by injecting a 1 per cent. novocain solution into the perineal body and the skin of the perineum. The advantages of this procedure have been very evident in two cases where the relaxation of the perineal muscles and the absolute painlessness of the passage of the head over the perineum filled us with agreeable surprise.

After a practical experience with the twilight sleep method extending over seven months we are strengthened in our belief that within the limits given by the indications and contraindications set forth above, it is our pleasant duty to give parturient women the advantage of scopolamin-narcofin narcosis.

Metropolitan Building, 4900a Laclede Avenue.

SCOPOLAMIN-NARCOFIN SEMINARCOSIS

AN EXPERIMENTAL AND CLINICAL STUDY (PRELIMINARY REPORT)*

OTTO H. SCHWARZ, M.D.
ST. LOUIS

Scopolamin, in combination with narcofin or some other opium alkaloid, is used for the induction of that peculiar state of subconsciousness in the parturient woman in which she feels the pains of childbearing in a limited degree, but in which her memory retains no record of anything that has occurred while this subconscious state lasts. This combination of partial analgesia with complete amnesia constitutes the twilight sleep of Gauss.

When it was decided to test the value of twilight sleep in the obstetric division of Barnes Hospital, it was deemed advisable to study the action of scopolamin and the various opium alkaloids on heart and respiration in animal

experiments, in the hope that the experience so gained would serve as a guide in the clinical work and lead to an avoidance of some of the undesirable by-effects on the child which are so frequently reported in recent literature.

These experiments are being conducted in the pharmacologic laboratories of the Washington University Medical School under the personal supervision of Dr. Jackson. The points so far ascertained may be summarized as follows:

Scopolamin in doses considerably larger than those used in twilight sleep has no material effect on blood pressure or on respiration.

The well-known paralyzing action of scopolamin on peripheral nerve endings seems to have no serious by-effect in twilight sleep; it usually manifests itself in the parched condition of mouth and throat of which the patients complain.

When the dose of scopolamin exceeds the amount desirable for the purpose of amnesia it causes complete mydriasis, which constitutes a warning signal to stop further injections of scopolamin.

In animal experiments we can illustrate this paralyzing action of scopolamin on peripheral nerve endings by its action on the endings of the vagi in the bronchioles, by its action on the inhibitory terminals in the heart, and by its action on the terminals of the third nerve in the iris.

Morphin, narcofin and other opium alkaloids have a decided ill effect on respiration. This effect is twofold: in the first place, the respiratory center is depressed; in the second place, these alkaloids act directly on the muscle fibers of the bronchioles causing bronchoconstriction. We were able to show that the influence of narcofin on the respiration is considerably less than that of morphin and narcotin.

These experiments seem to prove that the use of scopolamin for the induction of twilight sleep is comparatively harmless, but that the use of opium alkaloids is likely to interfere with the prompt establishment of respiration in the new-born child; they also show that narcofin is less harmful than morphin.

Our clinical experience is limited to fifteen cases, of which eleven were primiparae. In twelve cases the result for the mother was perfect; the remaining three cases showed considerable analgesia, but amnesia was absent or defective.

Of the babies, nine were born in perfect condition; five showed oligopnea, or apnea lasting from one to ten minutes. One child was asphyxiated and required artificial respiration for five minutes. The condition of the babies was in no case alarming and was perhaps not always due to the action of the drugs.

We do not share the opinion of Siegel that this defective respiration, in a large percentage

* From the Department of Obstetrics and Gynecology, Washington University Medical School.

* Read before the St. Louis Medical Society, May 15, 1915.

of the babies born under twilight sleep, is a negligible factor. We rather follow the advice of Gauss and use only one small dose of narcofin with the first injection of scopolamin, and we do not repeat it, except in rare cases in which the patient has regained complete consciousness.

By following the original method of Gauss in every detail, we may hope that with increased experience and with intelligent cooperation of house staff and nurses, we may in time approach the good results obtained by Gauss himself.

440 N. Newstead Avenue.

DISCUSSION

DR. HENRY SCHWARZ: This symposium was originated so the members of the society might see how the men who are engaged in this investigation of twilight sleep, stand. The society wishes to know if in using this method you are satisfied that you are finding results. Dr. Tilles is strongly in favor of the method and thinks he has secured almost ideal results even compared with those of Gauss himself. Dr. Gellhorn is satisfied with his results and willing to continue the work. Speaking for the work in my own department, I am willing to say that we likewise approached the work with diffidence, but we gradually gained confidence in it because if you have once seen a case under perfect twilight you know that the claim of those who have done a great deal of work in this line is well founded, that it is possible to manage a case of labor so that the woman, while she perceives her pain, has no permanent record of it. It is this which Gauss wanted to attain; it is this which distinguishes twilight sleep from the doping which was done before the work of Gauss had been published, the doping with tablets, the doping with hyoscin and morphin, or with attempted twilight sleep for that matter. So all are satisfied that there is something to it, but we are not all equally satisfied that the work is quite as easy as it might appear from some publications. We are satisfied that there is no danger to the woman and with careful work no danger to the baby in proper surroundings and in skilful hands; but we are not all united in accepting the cyanotic or apneic baby as a necessary complication of twilight.

I agree with most of what has been said by Dr. Tilles and by Dr. Gellhorn, yet I do not believe that Dr. Gellhorn has quite accurately quoted Gauss when he claims that Siegel's method is Gauss' method or is sanctioned by Gauss. If he will go back to Gauss' original contribution he will find that Gauss was exceedingly well satisfied with his work, but he found that he got a great number of babies under delayed respiration. He questioned himself as to the cause of that and after many experiments he concluded that there should be a very small dose of morphin, which should not be repeated except in rare cases. Gauss very distinctly declares that the difference in the action of the drug in different cases is not due to any change in the drug. In determining the action of the drug in fact he is very conscientious in stating that he got the same results when he used hyoscin tablets of Burroughs-Wellcome, or hyoscin of Parke-Davis, or scopolamin of Merck. He used all these before the year 1906, when he made his first contribution; but, as a matter of convenience he used the scopolamin of Merck. He claims that the difference of action lies in the individual and it was for that reason that he did not approve of any routine or schedule treatment. The publication of Siegel was under the sanction of Kroenig in order to simplify the method so as to introduce it into general practice,

or at least to introduce it into larger circles; but that effort cannot be described as coming from Gauss or even being sanctioned by Gauss because of the contradiction therein of all that Gauss has published; and the results are in accord. One third of the children in these 220 cases were born with delayed respiration. It is true they all came to, we are told; it is true that Siegel took twenty-two of them and let them lie to see how soon or how late they would come to. They may be able to do that in some of those university clinics, but we cannot afford to do it; we cannot afford to stand by and wait twenty minutes until a baby comes to. It is this condition of things that Gauss seeks to avoid, and in the work that he has published it was avoided successfully.

I am fully in accord with Dr. Tilles and with Dr. Gellhorn when they say that in a well-appointed home there is no reason why twilight sleep should not be attempted, that is, always provided that the doctor and a nurse are there. In fact, I think a well-appointed home under these conditions has a certain advantage and is to be preferred to the city hospital, where patients are disturbed by other patients, or the effect of twilight sleep is weakened by the interest the patients display in each other.

DR. T. R. AYARS: Dr. Tilles accepts his findings as conclusive. He thinks highly of the method in every way and states that there is no danger to the mother; but I think that his own figures condemn him. He says that in six out of eleven cases forceps were used. I think that is a rather high percentage. In my general practice I do not find it necessary to use forceps anywhere near so often. In addition to that he says that all the placentas were delivered by Credé's method. That also seems to me a high percentage. While it is not necessarily true that any damage is done by delivering by Credé's method, yet all these added procedures certainly do not tend to the best good of the mother.

Dr. Gellhorn's cases were well chosen, but possibly these same cases, being well chosen, would have shown good results anyway. These were all perfectly normal cases, no contractions of the pelvis, the age of the patient, as I remember, was the very best, the time when the very best results may be expected in obstetrical cases; and, for that reason, I do not think they are so conclusive as if they had been of a broader nature.

As to the general conditions under which these procedures are conducted, I have not attempted twilight sleep in any case, but if my observation is correct it is necessary to have the members of the family absent, the room darkened and perfectly quiet. I believe that those are the conditions necessary where we wish to get hypnotic effects also.

DR. G. D. ROYSTON: I agree with Dr. Tilles as to the beneficial effects of keeping these patients in bed fourteen days. I cannot see why twilight sleep should strengthen the pelvic floor so greatly, or favor involution to such an extent that the patient may be allowed out of bed in three or four days. If I remember correctly, Professor Kroenig at one time was getting his patients up eight hours after delivery, but he is now giving them a few days rest in bed.

As to the personal attention required by the obstetric patients, I think that should take place in every case, irrespective of whether it is twilight sleep or not. As a matter of fact many of these patients are not getting the attention they should receive.

The work of Drs. Gellhorn and Kerwin has shown that there is no effect on the contractions during the first stage. The second stage is a little bit prolonged, but that is perhaps due to the lack of the straining efforts of the mother, and if at the proper time the mother is encouraged to strain and a little anesthetic

is given, or even forceps applied, I cannot see why that should be an obstacle.

DR. R. S. TILLES: As regards scopolamin, Holtzback of the Sellheim clinic at Tübingen, with whom I had the opportunity of working, proves by experimental investigations that only infinitesimal doses of scopolamin are present in the child's body and these are eliminated entirely within two hours after birth. He also claims that the mortality of the children is not increased at all and that some statistics show it has been diminished.

I agree very heartily with Dr. Schwarz that there is a marked difference between the Gauss and the Siegel methods. The Siegel method is an outgrowth of the Gauss method and has been originated only to simplify the method for those who are not familiar with the finer, more delicate technic of individualizing the patient. In the Siegel clinic and also in the Gauss clinic, where it was brought out, they only used it on what they call fourth class patients. Just what those are, I do not know. They would not try it with the first-class patients, or even the second or third class.

In answer to Dr. Ayars, I admit that I used forceps in six cases out of eleven. Not all these forceps deliveries were absolutely necessary. Like everything new, we are a little afraid of it, and when I found the head was being retarded and it was right in front of me I put on low forceps and pulled it out just because I felt it was the safest thing for the mother under the conditions with which she was laboring at that time; consequently the high percentage of tears. As regards the Credé method, I always deliver by the Credé method after waiting twenty or thirty minutes; that was not the result of the scopolamin-morphin labor.

DR. GEORGE GELLHORN: I think the outcome of this discussion tonight is to show that all those who have tried to gain understanding and experience with this scopolamin-morphin narcosis have become advocates of the method. It cannot be said that any of us have adopted the method in a spirit of exuberant enthusiasm. We are all skeptical, nor do we show any extravagant enthusiasm at this moment. As far as I am concerned I am willing to concede that there may be a very much better method found in time to come and I can see a number of improvements that this method is capable of. The distinction, however, that Dr. Schwarz, Sr., makes between the Gauss and the Siegel methods I fear is rather artificial. I believe I am in this audience the only man who has been in Freiburg and has personally seen the method there. I have seen Gauss himself demonstrate the twilight sleep and from conversation with him I know that up to three years ago only morphin was used and even in those days the morphin administration was not limited to one injection, but when need required it morphin was again given. When it comes right down to examining the distinctions between these two technics it requires a microscope to find any noticeable difference, and to discuss the little differences between the two so-called methods and the results of these methods is hardly necessary. The main issue is this, that there is a need for a new method of relieving women in childbirth and that that need has been recognized and it is for us to study it and work it out.

DR. OTTO SCHWARZ: In most of our cases we did not repeat the dose of narcotin and in all those cases in which perfect amnesia was obtained we gave only one dose of narcotin.

Any one who observes the effect of twilight sleep will find that the woman when she cries out does so only at the height of the contraction and if he puts his hand on the uterus and waits for the contraction, he finds it occurs long before the patient complains of pain.

AN UNUSUAL EXTRA-PERITONEAL ABDOMINAL NEOPLASM

JACOB GEIGER, M.D.

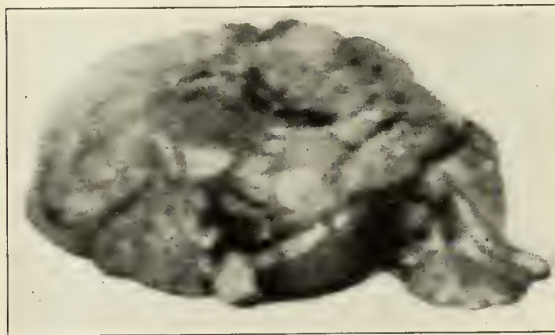
ST. JOSEPH, MO.

REPORT OF CASE

The patient presented herself to me for diagnosis and treatment in May, 1915, with the following history:

Mrs. E. O., farmer's wife, aged 54, the mother of seven children; last confinement ten years ago. Present weight 254 pounds. She gradually took on flesh. About sixteen years ago she noticed some enlargement of the abdomen just below the umbilicus. This enlargement steadily increased. Had fair health until the last two or three years when she became nervous and suffered much with indigestion and constipation and was compelled to remain in bed much of the time during the last three or four months, by reason of the weight of the tumor, pressure symptoms and a free and constant bloody discharge from the womb.

The tumor now filled the entire abdominal cavity; the intestines were pushed upward and to the sides. The abdomen was symmetrical, having the appearance of a large cystomata or fibromata. On bimanual palpation pseudofluctuation was felt. There was no doubt about the presence of a tumor, but its true histogenesis was not known.



Photograph of lipoma.

After due preparation, the patient was placed on the operating table and an incision made in the median line from umbilicus to the pubes; after going through the thick abdominal wall, a distinct fibrous capsule was encountered but no peritoneum was found. Continuing with finger dissection I came upon a great mass of fat. This separation was continued between the parietes and tumor until the surface of the growth was free. The median incision was now extended five inches above the umbilicus and above the tumor line. Here the peritoneum was found and opened and the hand introduced and passed under the tumor which well nigh filled the entire abdominal cavity. The enormous lipoma was then recognized and gradually peeled off leaving the anterior parietal peritoneum intact, except above where it was opened for the introduction of the hand.

The bleeding was slight. The tumor was convex anteriorly and posteriorly, weighing 31 pounds. The abdominal wound was closed in the usual way. On further examination of the body and limbs of the woman we found twenty-five subcutaneous lipomas, varying in size from an almond to a small hen's egg.

The hemorrhage from the womb was due to an old, extensive cervical laceration and a granular endometrium. The woman made an uneventful recovery and left the hospital at the end of two weeks.

614 Francis Street.

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EDITORIALS

PREPAREDNESS

Let the peace party preach and the propagandists of preparedness promulgate their preventive program as they may, the medical profession is always prepared to enter any conflict that puts human life in jeopardy. On the firing line 365 days in the year—barring a few stolen hours at golfing, tangoing, fishing, hunting and other mild forms of recreation—the physician is always armed cap-a-pie for the war between life and death. But let us reverse the shield and glance at the unpreparedness of the physician.

"The poorest business man in the world," is a common phrase when a doctor's business methods are under discussion, and the facts seem to prove the case. No practicing physician can succeed in his profession unless he adopts methodical measures to protect his material interests. The poverty of some of our aged physicians today, the penury of the widows and children of some who are deceased and the success of modern physicians who are methodical without losing an iota of professional instinct warn against unpreparedness in managing the financial side of practice.

The beginning of a systematic method of attacking the business side of practice that will lead into the habit of taking care of your work is a daily call slip. Every physician should have a daily call slip of a uniform size, preferably printed, but a home-made one will do, of a size about 3 by 5 inches and perforated for binding in a loose leaf pocket-book. The slip should contain the name of the physician at the top, then spaces for the date, the name and address of the patient, whether a visit or office consultation, the result of the examination, and if a prescription was given, what it was. The entries on the call slip should be made as soon as the consultation is concluded. At office hours the next day this record should be transferred to a permanent account book of loose leaf form and the details of the case entered.

We know some doctors who try to keep track of their calls by writing on the backs of used envelopes, scraps of paper torn from pamphlets

or whatever waste paper lies within reach. This is an injustice not only to the physician and to his family, but it is unfair to the patient. If called into court and asked to produce the record of a call or a consultation such a physician must enter the humiliating acknowledgment that he has no record. Furthermore, such scraps of paper are easily lost, and then the physician must trust to memory in making his charge; if he is in doubt he will usually lose it rather than risk overcharging his patient. Many items have been forever lost through neglect of this matter.

Another phase of this question is the monthly account sent regularly. Physicians habitually underestimate the importance of sending bills monthly. Most people want to pay their bills, but most people wait until they are notified of the amount they owe before they offer to settle. Do not give them a chance to forget your account. A man once wrote a physician who had neglected to send his bill for a long time and said, "I have been trying to get my affairs settled up and as soon as I get my debts paid I will try to take care of you."

Many physicians wait until near the end of the year and then send a statement. If the amount is large the physician wants it paid, but usually it will not be paid because there are many other drains on the family purse at that season. If the amount is small, "it can wait," says the patient.

Regular, systematic, methodical procedure in examining a patient or opening a cavity is so important that it quickly becomes a habit with the physician; but the power of the same kind of methodical procedure in curing "bad-debititis" is a deep mystery to the average practitioner in medicine.

The sooner physicians adopt systematic methods of posting and collecting their accounts, the sooner will people learn that being sick is an expense and having a doctor restore the body to a normal state is a debt—just as much a debt as the bill for food bought from the grocer.

THE OSTEOPATH TO THE RESCUE

At the football game in St. Louis between Knox College and St. Louis University last month, one of the players, a young man from Galesburg, sustained a severe injury to the cervical spine and was taken to the City Hospital. After Roentgen-ray plates had been made and other diagnostic means applied, surgical and neurologic consultations were held by the resident and visiting staff with experts not connected with the institution. The consensus of opinion was that no surgical operation was indicated be-

cause the fragments of broken vertebrae were not then pressing on the cord, that the character of the injury rendered the patient's condition practically hopeless, and medical science apparently could do nothing for him except to protect him from further injury. Those in charge of the patient would not even assume the responsibility of consenting to his removal from the hospital because of the danger to the patient. In the face of these conditions an osteopath, who is said to have proclaimed to the father his ability to cure the boy by reducing the "dislocation," was engaged by the parent to attend him and wanted to treat him immediately. The surgeon in charge of the case, with the concurrence of one of his associates, refused to permit osteopathic "treatment" because in their judgment the patient might be injured by injudicious handling and so be deprived of any existing chance for recovery even though this chance might be very slight; that such a procedure might produce unnecessary suffering; and that as long as the patient was an inmate of the institution the staff was responsible for him and would make every effort to protect him from injury. When confronted with this firm decision the osteopath accompanied the father to the city hall. This visit to the mayor's office resulted in an order from the mayor and the director of public welfare and issued by the hospital commissioner relieving the attending staff from further attendance and permitting the osteopath to "try to save the patient, as the doctors had 'given him up.'"

For five days the patient had rested quietly with a gradual lessening of the effects of the frightful shock from the hemorrhage into the cord. Then the osteopath applied a jury-mast to the victim's head, which resulted in renewed shock, a scream and a plea from the patient to remove the apparatus. The patient became cyanotic. The extension was removed on account of the patient's bad condition. Death followed about two hours later.

At autopsy the coroner found a fracture of the fifth cervical vertebra and hemorrhage into the substance of the cord and gave the cause of death as "hemorrhage into the cord and fracture of the cervical vertebrae." Thus the diagnosis of the physicians was confirmed and their treatment proven to be correct.

Now it seems clear that the mayor and the director of public welfare actually took charge of a poor unfortunate who was receiving the best possible care which could be provided in a metropolis and noted medical center. They dismissed the skilled attendants who were honest and had informed the relatives of the actual state of affairs and turned the patient over to the distracted and deluded father and an arrogant, boastful osteopath. This was all done

without consulting those who were directly responsible.

Such is the situation in our municipal institutions. Such is the confidence shown by the municipal authorities in the men who without pay devote their time and energies to the best interests of the patients in our city institutions. Such is the protection provided for the city's unfortunates, who should be guarded and protected from injury caused even by their own folly or that of a misguided relative. When a city institution harbors a patient the city is responsible for that patient. No parent can absolve the city authorities from the moral responsibility though he may relieve them of the legal liability.

By this transaction the medical profession of St. Louis has surely received no incentive to be solicitous for the city's sick poor. It is no encouragement to scientific medicine when its votaries are repudiated at such a crisis. It is true that a parent has certain definite rights in employing whatever attendants he desires, at the same time this also has its limitations. But when a municipality has assumed the responsibility of taking care of an individual because of an emergency or otherwise it behooves those in authority to maintain a proper mental equilibrium under all circumstances and to protect their charge at all hazards. What is the use of having men who know what to do when they may be eliminated at a nod from those "higher up" just when their opinion is of paramount importance?

If the city of St. Louis desires to place its eleemosynary institutions in the hands of osteopaths, chiropractors, Christian Scientists or of the followers of any other cult claiming to have power to heal the sick it may do so and no selfish cry against the plan will be heard from the medical profession. But when the city places the legally licensed practitioners of medicine in charge of the sick and afflicted the responsibility for the care of the patients must rest solely on the physicians in charge. Any attempt to force them to consult or associate with one who does not possess equal qualifications for treating the sick is an insult to the intelligence of the medical staff and a violation of the agreement under which the physicians give their services to the city gratuitously.

PELLAGRA EXPERIMENTALLY PRODUCED

When the American Medical Association met in St. Louis in 1910 Dr. M. F. Engman of St. Louis determined to have a pellagra clinic for the demonstration of the disease before the dermatologic section but a diligent search failed

to discover a single case of pellagra in any institution in or around St. Louis. However, his colleague, Dr. Wm. H. Mook, found five cases in the State Hospital at Nevada, and the authorities of the hospital kindly brought these cases to St. Louis for the clinic. Through much persuasion the Illinois authorities allowed Dr. Zeller of the Peoria State Hospital to transport eleven of his cases to St. Louis for the same purpose. Thus we had a very satisfactory demonstration of the disease in its various phases when its etiology and treatment were shrouded in much mystery. The cases attracted wide attention from the members of the Association and the clinic proved very educational. At the present time it would not be difficult to obtain cases for such a demonstration as pellagra is now not infrequent in Missouri. It is on the increase and its prevention is an important health problem.

The work of Surgeon Goldberger and his colleagues, Drs. Waring and Willets, together with the excellent epidemiologic work in this disease by Edgar Sydenstricker, all of the Public Health Service, have taught us that pellagra is an economic disease and follows low wages and the high cost of living. It has increased rapidly throughout the South in the last seven or eight years, no doubt due to the rather stringent economic conditions that have occurred during that period. Throughout the South the cost of foodstuffs has increased with a corresponding fall in demand while at the same time there has been a reduction in the price of labor. Such a condition forces the individual to buy cheaper food as a certain amount of his income must be put aside for rent, heat, light, and clothing. The cheapest foods are the carbohydrates and fats. Therefore corn products and fat bacon with scarcely any lean meat have been and are the principal articles of diet of the laboring and poorer classes of the South.

In an article reprinted on another page in this issue from advance sheets from the *Public Health Reports* of November 12, it seems that a certain condition which may be pellagra has been produced in convicts who volunteered to undergo an experimental diet. In looking over the report one can see that this diet consists largely of carbohydrates and fats and is extremely low in protein and leguminous foods, which experience has taught the reporters, Surg. Joseph Goldberger and Asst.-Surg. G. A. Wheeler, is the ideal diet for the production of pellagra. This practical dietetic lesson was impressed on these gentlemen through the study of the diet lists of institutions in the South where pellagra was a usual spring and fall occurrence.

At Jackson, Miss., there are two orphanages and a state hospital for the insane where pellagra has existed for many years. The orphanages presented an excellent field for study as their annual crop of pellagra was from 30 to 50 per cent. of the inmates, with a very high mortality. The diet of these children suggested the diet for the investigation among the convicts spoken of. It was exceedingly poor in protein and leguminous foodstuff. In the spring and summer of 1912, 1913 and 1914 these institutions had their usual large crop of pellagra. But in the spring and summer of 1915 the diet was radically changed¹ to one more suitable for growing children and only one case occurred in these institutions. They had milk, eggs, meat and beans frequently during the week. Dr. Engman had the privilege of examining these children on October 29 last and did not find a pellagrin among them but saw probably 100 or more who showed the evidence of past attacks that had occurred in 1912, 1913 or 1914.

Dr. Engman, who was summoned as an expert by the government, also had the privilege of personally examining the squad of convicts undergoing the experiment spoken of in the report and declared he knew of no other condition that would cause the eruption seen on these men except pellagra. The skin on the scrotum had every appearance of pellagrous skin; also on the neck of one individual and on the hands of another. The patients looked like pellagrins in face, color and expression.

This work, so simply and practically performed, means a great deal to the South as the annual crop of pellagrins is about 70,000. From the practical investigations and results obtained by these gentlemen one is forced to admit the value of their experiments and must learn the lesson that pellagra is a dietetic disease. As Drs. Goldberger and Waring² say, they do not wish to enter the discussion of the etiology of pellagra but they wish to point out that it is due to a dietary fault on which in their judgment the development of the disease essentially depends, and that it is capable of being corrected or prevented by including in the diet a suitable proportion of fresh animal or leguminous-protein foods. They do not wish to be understood as asserting that pellagra causing fault is capable of correction or prevention in this way only. The possibility is not excluded that there may be other foods capable of serving the same purpose and that barley, rye and millet may have this power in the same degree. They further state: "Moreover, it may be, if Funk's suggestion that pellagra is a vitamin deficiency, brought about by the consumption of overmilled corn, is proved to be correct, that

1. Under the direction of Dr. Goldberger.

2. *Public Health Reports*, Vol. 30, No. 43, p. 3129.

the use of undermilled corn will of itself correct the 'fault' in a diet in which this cereal is the staple. For the present at least the point of chief, of fundamental, practical importance is the recognition of the fact that the pellagra-producing dietary 'fault,' whatever its essential nature or however brought about, is capable of correction or prevention, as the results above presented seem to clearly indicate, by including in the diet suitable proportions of the fresh animal and leguminous foods."

In the treatment of pellagra it is recommended merely that the diet should be rich in the above-mentioned foods and they believe pellagra may be prevented by a properly proportioned diet. Peas and beans are particularly recommended, fresh or dried (not canned), as they are cheap, efficient and easily acquired foods. Any one interested in the subject should carefully read the *Public Health Reports*, namely, Reprint No. 228, Vol. 30, No. 43, of Oct. 22, 1915.

END OF FISCAL YEAR—PAY YOUR DUES

The fiscal year of the Association and of county societies terminates December 31 and dues for 1916 are payable on January 1. We urge all members to pay their dues to the county secretary during the month of December so he can remit the state assessment to the state secretary before January 1. In this way much unnecessary labor will be avoided and certificates of membership and pocket cards can be issued as promptly as dues are received. Good standing also is maintained and all privileges of membership retained, including the assistance of the Association in suits for malpractice.

We know the members will be pleased with the status of the Association for 1915, as it is far ahead of the record in any other year. At this writing there are only 238 delinquents for 1915 for the entire state. This is a showing that is indeed indicative of the sustained interest of the members in the Association. We are endeavoring to obtain the dues from the few who are still delinquent, and we hope that the end of the year will find every member paid up and in good standing. At present there are 3,166 members.

DADE COUNTY ORGANIZED

On November 11 Dr. C. R. Woodson our president, Dr. E. N. Chastain of Butler, councilor of the sixteenth district, and the secretary of the state association, Dr. E. J. Goodwin, met with the physicians of Dade County at Green-

field and organized the Dade County Medical Society. Dr. John McDermott of Lockwood was elected president, Dr. Thomas J. Massey of Lockwood, vice president and Dr. J. L. Rawhauser of Greenfield, secretary. Interest in the meeting was gratifying and it is hoped that all eligible physicians in the county will soon become members.

From Greenfield Drs. Woodson, Chastain and Goodwin motored to Lamar where a special meeting of the Barton County Medical Society had been called. This society is one of the most efficient county organizations in the state and renewed interest and enthusiasm for holding regular sessions and extending the influence and benefits of county organization were manifested by all present.

On November 23 the secretary of the state association and Dr. G. M. Rutledge, councilor of the twenty-first district, will meet with the physicians in Perry County for the purpose of organizing the Perry County Medical Society. The physicians in the county have expressed strong desire to organize and affiliate with the state association. A report of this meeting will appear in our next issue.

ST. LOUIS GLOBE-DEMOCRAT AIDS HEALTH PROPAGANDA

Early in November the St. Louis *Globe-Democrat* announced that Dr. W. A. Evans of Chicago would be a daily contributor to its columns, writing on health topics. For several years Dr. Evans has performed a similar function for the *Chicago Tribune*. That the service has been continued uninterruptedly is sufficient evidence that the columns filled by Dr. Evans are a source of useful information to the readers of the *Tribune*. We are much gratified that the St. Louis *Globe-Democrat*, esteemed the world over as an exponent of clean, conservative and progressive journalism, has established a department of this kind and placed at its head a journalist whose experience as a practitioner of medicine and a public health officer qualifies him to direct it with the frankness, dignity and probity worthy of a great daily newspaper. It is this kind of cooperation of the press that is needed to make the work of health departments and other public and private efforts effective in teaching the people how to preserve health and prevent disease, individual and communal.

As a corollary of this advance we are confident that the editor and owners of the *Globe-Democrat* will soon learn that a double standard in their advertising policy is untenable and therefore we are sure they will eliminate those misleading and deceptive articles that mas-

querade as doctors' advice and prescriptions but are in reality artfully subtle advertisements of patent medicines and nostrums of questionable value.

DRUGGISTS, BEWARE OF DRUG PEDLERS

Reports from the office of information of the United States Department of Agriculture warn druggists not to purchase supplies from itinerant peddlers. The department has discovered that unscrupulous manufacturers are attempting to reap a golden harvest by selling worthless imitations of medicines now difficult to obtain on account of the war in Europe; for instance, the supply of neosalvarsan and aspirin is about exhausted and importations have ceased. The cheapest kind of imitations of these valuable drugs are being peddled to druggists, not through legitimate trade channels, but through itinerant vendors. This is done to prevent any one from learning the original source of the frauds. The United States Department of Agriculture has seized several shipments, but they cannot prosecute unless the articles are sold in interstate traffic. It is, therefore, incumbent on state officials to protect physicians and druggists against this sort of fraud within the borders of the state. This is published so our members will not be inveigled into buying these fake medicines, and to ask members to caution druggists against making purchases from irresponsible persons. A full report from the Department of Agriculture is presented on another page in this issue.

TRAINED NURSES AND THEIR DUTIES

When the State Board of Health met in St. Louis on October 18, just passed, they took action on a subject which vitally concerns the health of the people.

It was reported to the board that trained nurses were frequently sent by the local health authorities to determine the character of some infectious disease and were clothed with authority to quarantine or not, as in their judgment they thought best.

In the judgment of the board of health this is a dangerous thing for them to undertake, as no training contemplates making of nurses experts in the art of diagnosis; therefore, that responsibility should not be put on them.

Trained nurses have their legitimate sphere of responsibilities, and, all honor to them, the medical man would fare badly without them; but the duties of diagnosing, treating or quar-

antining should rest on the physician, and he alone should be held responsible.

The State Board of Health acted wisely and entirely in the interest of the public.

OBITUARY

JOHN R. PAPIN, M.D.

Dr. John R. Papin, a graduate of St. Louis University Medical School, died at St. John's Hospital, November 11, 1915, aged 58. Dr. Papin was born in St. Louis, the son of Dr. T. L. Papin, one of the founders of St. John's Hospital, and after graduating in medicine practiced in that place for about 15 years. In June, 1913, he became afflicted with rheumatism and since that time he has been a patient at St. John's Hospital. Dr. Papin was an uncle of Dr. Vilray P. Blair of St. Louis.

SHERMAN MILLER, M.D.

Dr. Sherman Miller of Mayesville, a graduate of the St. Louis College of Physicians and Surgeons, 1893, died November 11, 1915, aged 49 years. Dr. Miller was returning from Urich in a new automobile when the car skidded and rolled down the crumbling bank into Grand River. His companion, Mr. Hibbs, also of Mayesville, was thrown clear of the car into the water, while Dr. Miller was pinned beneath the car and was drowned. Dr. Miller's death is greatly deplored by his fellow practitioners in Bates, Henry and Cass counties. He was well known and loved by all. He was one of the most active members of the Bates County Medical Society and seldom missed a meeting of the society. He is survived by a widow and five children, four sons and one daughter.

JAMES N. COONS, M.D.

Dr. James N. Coons, a graduate of the medical department of Iowa State University, 1857, and of the St. Louis Medical College, 1868, died at his home in Palmyra, Mo., Nov. 9, 1915, aged 86. Dr. Coons was a high-minded, energetic and well-informed physician and was held in high esteem by his professional brethren. For some months he had been in failing health, but not until a few days before he died was his condition considered serious. He was one of the early settlers of Marion county, coming from Kentucky, his birthplace, with his parents in 1841. In early manhood he chose the medical profession as his life's work and practiced in

Shelby and Marion counties for many years, until a fall from which he never recovered rendered his retirement a necessity.

HENRY O. HANAWALT,—1844-1915

Dr. Henry O. Hanawalt was born July 29, 1844, on a farm in Ross County, Ohio. When quite a young man his family moved to Fayette County, the same state, where he grew to manhood. His education was acquired in the common schools, and in the Ohio State Normal. He was a member of the Sixtieth Ohio Infantry in the Civil War, receiving an honorable discharge in 1862. After this he taught school, and studied medicine with a preceptor and in the Ohio Medical College from which school he was graduated in 1873. Succeeding his graduation he came to Arvonia, Kansas, where he practiced medicine for four years, and then located in Galena, Kansas, where he was engaged in the duties of his profession until 1885, when he moved to Kansas City, Mo. While living in Galena he was mayor one term and president of the Kansas State Medical Association. In Kansas City he continued in practice, devoting his time almost exclusively to mental and nervous diseases until his death, which occurred June 5, 1915. Shortly after his arrival in this city he was made professor of physiology in the Kansas City Medical College, and after several years he was elected to the chair of neurology, which position he held until the school was absorbed by the University of Kansas, where he was continued in the same department. He was a member of the Jackson County Medical Society; its vice president twice, and president in 1896-97; a member of the Missouri State Medical Association and of the American Medical Association. Dr. Hanawalt was a good doctor, keeping abreast of the times. He was well equipped to hold any place or position connected with medical paideutics which he would consent to fill. He was not only scholarly but a man of good judgment, a safe counselor, and above all an honest man. In his dealings with his fellow practitioner he was so fair that he won the confidence and esteem of all. The Jackson County Medical Society wishes to extend to his widow, Mrs. Ida E. Hanawalt, to his daughter, Mrs. Robert T. Mehornay, and to his son, Henry O. Hanawalt, Jr., deep sympathy and condolence in this their loss and sorrow.

AMOS A. FREYMAN, N.
BERTAN H. WHEELER, S.
H. B. COLMAN, S.
Necrologic Committee.

—From *Weekly Bulletin*, Jackson County Medical Society.

RICHARD H. McBAINE, M.D.

Born in Columbia, Mo., Oct. 11, 1883, Dr. McBaine received his A.B. degree at the University of Missouri in 1903, his medical degree at Columbia University, New York, in 1906, and spent the years 1906-1908 at the Presbyterian Hospital in New York City, and then went abroad for one year. He died Oct. 17, 1915, at the St. Johns Hospital, St. Louis, after a lingering illness.

"Plato, thou reasonest well.

Else whence this pleasing hope, this fond desire,

This longing after immortality?

Or whence this secret dread and inward horror
Of falling into naught?

Why shrinks the soul back on itself,

And startles at destruction?

'Tis the Divinity that stirs within us."

When three score years and ten are reached no one startles at death. But all stand aghast and wonder why a young man, standing on the threshold of life with the brightness of this world luring him on—the lure not for vain glory but for man—is called to stand before his Maker—nothing left save his immortality. "Death cannot claim the immortal mind." Such fell to the lot of R. H. McBaine, his power growing, his fame ripening; McBaine, the genial, kind and pleasant.

"O holy hope, and high humility,
High as the arching heavens above."

The world worships the hero and erects great memorials provided the hero destroyed his thousands; the more the thousands the more we fall down and worship. But when a doctor spends his best years to save human life and then loses his own life in a laudable effort to save another, no memorial arises.

"Why, what is pomp, rule, reign but earth and dust

The paths of glory lead but to the grave."

I knew Richard H. McBaine from his cradle to his full manhood, a product of Boone County, Mo., born almost within the walls of our State University, breathing its literary and scientific atmosphere, he was an honor to his Alma Mater. Then, like a true American, he took all that was good on this continent, but still not content he visited the ablest men in medicine of the Old World. A boy seeking knowledge, truly an American doctor with ideals raised high and as fast as approached, raised higher still. The great essential to advancement to-day, our Americanism is the admira-

tion of the intelligent world. He had much to do and was loath to quit the battle.

"Light be the earth on thee,
Light as the leaf on the olive tree,
Like a tear on the Virgin's cheek,
Yea, like the dew drop in spring."

—A. W. McALESTER.

NEWS NOTES

DR. J. W. TRIMBLE of Chillicothe has been quite ill and confined to his home.

DR. J. P. RALSTON of Springfield was stricken with paralysis several weeks ago. He is in a serious condition.

DRS. W. W. DUKE and JABEZ N. JACKSON of Kansas City were guests of the Henry County Medical Society at Clinton, November 10.

AN epidemic of diphtheria at Cameron became so severe that the schools, churches, and places of amusement were ordered closed. No deaths have occurred.

Drs. W. W. Duke, T. S. Milne, Howard Hill and S. Grover Burnett of Kansas City were guests of the Callaway County Medical Society at Fulton, November 11.

Dr. W. J. Ferguson, Sedalia, councilor of the seventeenth district, was a visitor at the meeting of the Henry County Medical Society held in Clinton, Nov. 10, 1915.

The headquarters of the government's work in rural sanitation will be moved from Washington to St. Louis and placed under the direction of Surgeon M. J. White.

DR. ELSWORTH SMITH of St. Louis was the guest of Greene County Medical Society, October 22, and read a paper on "Spontaneous Nontuberculous Pneumothorax."

THE next examination of applicants for license to practice in Missouri will be held by the State Board of Health at the Jefferson Hotel, St. Louis, December 13, 14, 15.

DR. C. B. DAVIS of Walker has been appointed assistant physician at State Hospital No. 3, Nevada, to fill the vacancy caused by the resignation of Dr. S. D. Reynolds.

DRS. C. L. KLENK, WM. ENGELBACH and H. UNTERBERG of St. Louis and DR. FRANK DEVILBISS of Tipton were guests of the Gasconade-Maries-Osage County Medical Society at Hermann, October 28.

DR. G. A. JORDAN, assistant health commissioner of St. Louis, has been sued for \$100,000 damages by Dr. T. E. Allen. Dr. Allen was recently discharged by Federal Judge D. P. Dyer, on a charge of misusing the mails. Dr. Jordan was a witness in the trial.

DR. F. R. MORLEY of Sedalia has been very seriously ill from blood poisoning that developed from an infected finger. For a while his life was despaired of but he is improving.

AT the meeting of the State Board of Health in Kansas City, September 28-30, Dr. L. R. Weir of Lathrop was refused an examination for license to practice on account of charges of unprofessional and dishonorable conduct.

THE license of Dr. Ira A. Miller of Middletown was revoked for a period of ten years. He is one of the advertising doctors driven out of St. Louis last year and had been indicted by the government for using the mails to defraud, to which he pleaded guilty.

DR. HUGH H. YOUNG of Baltimore was the guest of the St. Louis Medical Society, November 6, and addressed that body on "The Surgery of Prostate." On the same evening Dr. Wm. L. Rodman, President of the American Medical Association, was an unexpected visitor and addressed the meeting.

DR. E. Z. ZEY is not making any particular claim as to his ability as a horticulturist, but he is taking considerable pride in a box of strawberries which he has on exhibition at the Hess drug store. The berries were grown in Dr. Zey's garden on West Pine Street and look like they might taste pretty good.—Butler Democrat.

DR. H. S. HILL of Springfield was injured November 7, while on his way home from church and suffered a fracture of the femur. He is in the Burge-Deaconess Hospital. His condition is regarded as very serious. He is 72 years old. For many years he has been the secretary of the Southwest Missouri Medical Association.

THE president, Dr. C. R. Woodson, and Dr. C. C. Conover of Kansas City, were guests at a joint meeting of the Cass County and Johnson County Medical societies at Holden, November 9. Dr. Woodson addressed the society on "The Importance of Early Recognition of Mental and Nervous Diseases." Dr. Conover's subject was "Infection of the Kidney."

A COMMITTEE of the Greene County Medical Society appointed by the president, Dr. A. L. Anderson, was instructed to formulate plans for the establishment of a district sanatorium for tuberculous patients. Cooperation of the Greene County court has been obtained and steps have been taken to include the counties of Greene, Polk, Dallas, Webster, Christian, Lawrence and Dade.

THE following physicians passed the examination of the State Board of Health, September 28-30, at Kansas City: R. L. Alsaker, R. Arnold, M. F. Atwood, L. Bernard, A. F. Bina, I. H. Boemer, G. W. Edwards, A. W. Fox, A. N. Gray, E. E. Griggs, O. A. Grote, H. Harvey, S. L. Haseltine, May E. U. Hubert, G. E. Jacobs, J. S. Jaques, F. D. Leiser, G. M. Pellettieri, Wm. Roney, S. P. Simmons, F. M. Slaughter, G. M. Smith, A. O. Tucker, J. E. White, J. W. Wilkerson. Eight applicants failed to pass.

THE St. Louis friends of Dr. L. M. Warfield will be interested to learn of his election as editor of the *Wisconsin Medical Journal*, the official publication of the Wisconsin State Medical Society. The *Wisconsin Journal* has been well edited under the management of Dr. A. W. Myers and is conducted in accord with the rules of the Council on Pharmacy and Chemistry. Under Dr. Warfield's direction the *Wisconsin* members may feel sure that the *Journal* will maintain its high position in the front rank of virile publications fighting to uphold the dignity and honor of the profession.

The Supreme Court of Missouri has affirmed the judgment of the lower court upholding the power and authority of the State Board of Health to revoke licenses of physicians for "unprofessional and dishonorable conduct." This opinion was rendered in the case of Dr. A. M. Conway of Columbia, Boone County, whose license was revoked for ten years in 1910 for whisky prescribing. It was proved that Conway issued 778 prescriptions in the months of February and March, 1910, and charged 25 cents for each prescription. He appealed to the county court of Cole County which upheld the board and now the supreme court sustains that opinion.

DR. JOHN A. PRINGLE has been appointed superintendent of the St. Louis City Hospital to fill the vacancy caused by the resignation of Mr. F. E. Chapman who has accepted a similar position in the Jewish Hospital at Cleveland, Ohio. Dr. Pringle has been acting superintendent for several weeks and made the highest rank in a competitive examination before the Efficiency Board. His duties will be wholly administrative as the medical and surgical staffs have full charge of the medical care of the inmates. Dr. Pringle is a graduate of the Washington University Medical School, 1911, and has been identified with the city hospital staff continuously since his graduation. He is 27 years old. Dr. B. W. Klippel has been elevated to the position of resident physician and Dr. C. A. Powell advanced to the position of resident intern.

DR. J. N. BASKETT of Hannibal is very ill in a hospital at St. Louis. On November 3 he underwent an operation for gallstones and was well on the way to recovery when he was stricken with paralysis on one side and his condition became serious. His physicians expect him to recover unless complications set in. Dr. Baskett has been a member of the county and state societies for many years and since his graduation has been an influential factor in maintaining the highest standard of practice in his profession. He graduated from the Bellevue Hospital Medical College, New York, in 1879, and has practiced in Hannibal for almost the entire period of his professional life. He served as mayor of Hannibal in 1903 and 1904. He is 62 years old.

THE following were indicted by the United States Government at St. Louis charged with misuse of the mails: Thos. E. Allen (Cleveland Univ. of Medicine and Surgery, homeopathic), H. Chas. Lloyd (Univ. Medical College of Kansas City), Wm. Pierce (Washington Univ. Medical School), Chas. C. Addams (Ensworth Medical College), Albert J. Miller (Jefferson Medical College), Gustav T. Wieland (St. Louis College of Physicians and Surgeons), Paul M. Fayn (St. Louis College of Physicians and Surgeons), Nathan A. Hughes (college data unknown), Joseph Morehead (college data unknown). Thos. E. Allen was discharged by the judge, Hon. D. P. Dyer, without allowing the case to go to the jury. Addams, Fayn, Pierce, Morehead, Nichols and Wieland pleaded guilty and were fined \$200 each. Lloyd and Miller took continuances until the next term of court. Nathan A. Hughes is serving a sentence of four years in the Texas penitentiary.

DURING October the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Mallinckrodt Chemical Works: Betanaphthyl Salicylate, M. C. W.

Merck & Co.: Betol; Bismuth Tribromphenate, Merck; Butylchloral Hydrate, Merck; Ethyl Bromid, Merck; Homatropine Hydrochloride, Merck; Sodium Cacodylate, Merck.

H. K. Mulford Co.: Hay Fever Vaccine, Mulford: 4 syringe packages (0.0025 mg., 0.005 mg., 0.01 mg. and 0.02 mg.) and 1 syringe packages (0.02 mg.).

Merck and Co.: The Council has recognized Merck and Co. as selling agent for the products of Knoll and Co. described in New and Non-official Remedies. The Council has also recognized Merck and Co. as selling agent for Kelene.

Heyden Chemical Works: Betol: Having been advised by the Heyden Chemical Works that Betol is no longer offered for sale the Council voted that it be omitted from New and Nonofficial Remedies.

FROM the *Bulletin of the St. Louis Medical Society* we copy the following:

APOLOGY OF DR. PORTERFIELD

In the St. Louis *Star* of May 22, 1915, in the course of an article on Contract Practice the following appeared:

"Dr. Porterfield said he had read the society's resolutions and that he could get along without the society as well as it could get along without him and he 'hoped that would set well on the society's ultra scientific stomach.'"

"The Ethics Committee, having failed to secure the attendance of Dr. Porterfield at a meeting held for the purpose of taking up this interview, referred the matter to the Committee of Censors for action with the recommendation that Dr. Porterfield be disciplined if a satisfactory apology was not forthcoming.

"At the last meeting of the council the following report of the Committee of Censors was adopted:

"After hearing the charges read and presented by the chairman of the Ethics Committee, also Dr. Porterfield's explanation and his statement that he would write a letter for publication in the *Bulletin*, explaining his action, the committee recommends that with the publication of the letter hereto attached, the charges against Dr. Porterfield be dropped:

"August 27, 1915.

"*Editor Bulletin St. Louis Medical Society*: It having come to my notice that I am opposed to organized medicine and otherwise an anarchist to medical ethics, I desire to state that such is not the case, and furthermore, I desire to state that not now, nor has it been, by word or act, my intention to be disrespectful to the St. Louis Medical Society or any of its committee.

Very truly,

"(Signed) DR. E. P. PORTERFIELD.

"P. S.—Please publish in the *Bulletin* and oblige."

MEMBERSHIP CHANGES, NOVEMBER

NEW MEMBERS

H. L. Ralls, Centerville.

J. B. Scott, Marionville.

John M. Walker, Kansas City.

E. S. Gaston, Meta.

CHANGES OF ADDRESSES

F. L. Anderson, Kansas City to Hagerman, N. M.

J. B. Cunningham, Pomona to Alton.

J. Carl Drake, 2429 McLauren to 919 N. Sarah St., St. Louis.

John F. Gallagher, 919 N. Sarah St. to Wall Bldg., St. Louis.

Edward A. Gumig, 1020 Randolph St., to 2923 St. Joseph Ave., St. Joseph.

Fred B. Hall, Metropolitan Bldg. to 3538 Washington Ave., St. Louis.

H. J. Harrell, Springfield to Holliday.

James E. Jose, Vienna to Owensville.

D. A. Laurenza, Kansas City to 1015 Williams Ave., Omaha, Neb.

Leslie B. Miller, Rialto Bldg. to 423 Altman Bldg., Kansas City.

Neil S. Moore, Moberly to 650 Century Bldg., St. Louis.

Walder E. Muns, Montgomery City to Columbia.

T. T. O'Dell, Ellington to Marionville.

C. O. Ozias, Warrensburg to Kansas City.

S. T. Ragan, Ardmore to Kansas City.

Emil Simon, 2623 Lemp St. to 2004a Geyer Ave., St. Louis.

W. C. Sumner, Strafford to Abilene, Texas.

M. S. White, Shannondale to New Cambria.

Geo. W. Wood, Iconium to Bristol, Colo.

RESIGNED

Walter McNab Miller, Columbia.

DROPPED

F. E. Diemer, Triplett.

Roy L. Gleason, Browning, Mont.

H. M. Grant, Pleasant Hill.

R. L. Hopper, Columbia.

G. F. Kimball, Dalton.

Geo. A. Moore, Humphreys.

M. N. Smith, Fayette.

B. F. Strong, Norborne.

James W. Rice, Berlin, R. D. King City.

EXPELLED

E. F. Oehler, St. Louis.

DECEASED

Sherman Miller, Mayesburg.

CORRESPONDENCE

DR. GEORGE M. HEATH
CHEMIST, BACTERIOLOGIST
CENTURY BUILDING
ST. LOUIS

OCT. 11, 1915.

DR. E. J. GOODWIN,
3525 Pine Street, City.

Dear Doctor:—I read with much interest your editorial in the MISSOURI STATE MEDICAL JOURNAL, and hope that you will be fair enough, honest enough and big enough to publish this letter.

The arrest that you referred to was entirely uncalled for, and instigated by selfish interests without the slightest cause. The judge threw the case out of court for the lack of evidence. I have never represented myself as a physician, and never thought of or attempted to practice medicine.

Your reference to my tuberculosis work in the manner that you did is entirely unjust. You know nothing whatever about it, therefore you have no right to express an opinion upon it.

It is true that I appealed to the newspapers to publish the fact that a clinic would be opened, and cases treated absolutely free. How else could I get a thousand or more case reports to prove the efficiency of the preparation? Would the St. Louis Medical Society lend its support? No.

You say that doctors should be careful not to use any preparation unless it has been thoroughly tested. How do you expect a preparation to be thoroughly tested unless some doctors are big enough and willing to experiment with it clinically?

In connection with my tuberculosis work, I have never used the word "cure" and have never made extravagant claims. However, I have and still do claim that the preparation I have perfected, which is not a serum, is a step far in advance of anything ever given to the medical profession. My work has been strictly scientific throughout, and in a short time I will prove to you and the medical profession that I am working in accord with their interests, and that the work I have done is absolutely honest.

Yours very truly,

(Signed)

GEO. M. HEATH.

DR. E. J. GOODWIN, SEPT. 25, 1915.
3525 Pine Street, City.

Dear Doctor:—I am inclosing you a report of Mr. Wessels' in the case of George M. Heath, charged by this department with practicing medicine without a license, and discharged by Judge Miller of Court of Criminal Corrections No. 1.

From this report you will see that Mr. Heath unquestionably held himself out as being entitled to treat the sick and afflicted. He was not charged with practicing medicine, for the reason that he accepted no compensation. The law is very plain and we consider the discharge of this case a miscarriage of justice.

I am endeavoring this morning to ascertain if it is possible to appeal this case. If so, I will appeal it. Respectfully,

(Signed)

G. A. JORDAN,
Assistant Commissioner.

SEPT. 24, 1915.

DR. G. A. JORDAN,
Assistant Health Commissioner.

Dear Sir:—I respectfully report that on Friday, Sept. 10, 1915, Dr. M. C. Starkloff, health commissioner, called my attention to a George M. Heath, 627-30 Century Building, practicing medicine without a license.

On the same day I verified the fact of Mr. Heath not being a licensed physician. That afternoon, about 3:30 o'clock, I had Mrs. Wessler and Mrs. Muensch call at the Century Building. I had instructed them to ask for "Doctor Heath," and I also had instructed one of them to complain of having pains in the chest and of having a very bad cough. They reported to me immediately after their interview, and told me the following conversation took place after they entered the office:

They said that a man about 37 years of age came forward, and Mrs. Wessler said, "I would like to speak to Dr. Heath"; and this man said, "I am Dr. Heath." Mrs. Muensch then said: "Doctor, I came up to see what you could do for me, as I have pains in my chest and also a cough." Mr. Heath left the room and returned after a few moments with a round pasteboard box, which contained a sputum bottle; he asked Mrs. Muensch where she had pains, and she told him and pointed to her chest. Mr. Heath then felt Mrs. Muensch's chest, pressing it at different places, at the same time asking her if it hurt her here and there. Mrs. Muensch answered "yes" when he pressed on some parts of her chest and "no" when he pressed on other parts of chest. Mr. Heath then said: "I hardly think you have tuberculosis, but I think you have bronchial trouble, and you take this bottle and spit in it and mail it back to me," and further said: "Now, remember, I don't want any slime, but I want 'cheese' from your lungs." Mrs. Wessler then asked Mr. Heath if he thought that Mrs. Muensch had tuberculosis, and he said the pains in the chest on the left and right side is the beginning of tuberculosis, but that Mrs. Muensch's pains were bronchitis. Mrs. Wessler asked him if he could cure Mrs. Muensch, and he said: "Yes; no doubt in three

months she will be all right." Mrs. Wessler then asked what it would cost, and he said the cost would be 50 cents and up for the medicines; treatment free. Mrs. Muensch then asked what she owed him, and he said: "Nothing today."

They then left the office and reported to me and turned over the sputum bottle with the following address on same: "Dr. G. M. Heath, Century Building, St. Louis, Mo."

On Saturday morning, Sept. 11, 1915, at 9:15 o'clock, Officer Coates and myself placed Mr. Heath under arrest, and while at his office we explained what we were arresting him for. I asked him if it was a fact that he had diagnosed Mrs. Muensch's ailment as bronchitis, and he denied having diagnosed anything at all, claiming that he was only going to make an examination of her sputum, and that he would then turn her over to one of several specialists who were to take up quarters on the same floor at some near future time. We took him to the Central District Police Station, and applied for a warrant charging him with holding himself out as a physician.

On Sept. 23, 1915, Mr. Heath's trial came up in Court of Criminal Correction No. 1, before Judge Miller, and after hearing the testimony of Mrs. Muensch, Judge Miller decided that we had no evidence showing that this man had held himself out as a physician, from the fact that there had been no money paid to him.

Respectfully,
(Signed) A. W. WESSELS,
In Charge of Hospital Inspection.

REPRINT SHOULD HAVE PAGE NUMBER OF JOURNAL

ST. LOUIS, Oct. 27, 1915.

To the Editor:—I have found that many journals fail to specify on their reprints the volume, number and page of the journal in which the article appeared.

I believe if this were brought to the attention of the publishers of medical journals they would print the page number also, which would be a great benefit to the man making references and the one seeking the information.

Yours very truly, O. H. BROWN.

NITROUS OXIDE-OXYGEN ANESTHESIA

To the Editor:—An effort has been recently made to introduce nitrous oxide-oxygen anesthesia in the Kansas City General Hospital. Having noticed in *The Journal of the American Medical Association* the letter of Dr. James F.

Baldwin of Columbus, Ohio, requesting information as to deaths from nitrous oxide-oxygen, a number of letters were written by members of the hospital staff to surgeons and obstetricians in the great clinical centers asking an expression of opinion based on personal experience with the gas, before concluding as to the safety of the combination.

No doubt can be felt after these letters that the conclusion of Dr. Arthur Dean Bevan as expressed in the *Journal of the American Medical Association*, Oct. 23, 1915, is correct, that, "nitrous oxide in the hands of the tyro is a most dangerous anesthetic." Dr. Ochisner writes he used the combination in one hundred cases and then gave it up as he considers the advantages simply in the way of advertising—that the effects are psychological. In common with nearly all the surgeons from whom reports are had he considers ether by the open method the ideal safe anesthetic.

Dr. Charles H. Mayo writes he concludes nitrous oxide in general hands more dangerous than chloroform when it was given up at the Rochester clinic. Dr. Baldwin writes that he has notes of fifteen deaths from this combination in Columbus alone and a number of others are said to have occurred in Cleveland, Cincinnati, Baltimore and Nashville and here in Kansas City. If these reports are the facts and if there exists, as Dr. Baldwin says, "a conspiracy of silence among anesthetists to cover up their nitrous oxide deaths" because the popularity of the method in hands of some of the best operators with highly trained anesthetists has caused the method to be attempted by those without training, and disaster has followed, it is fortunate that Dr. Baldwin has set out in his investigation and the results should be given the widest professional publicity in the interests of both patient and operator.

Dr. A. R. Warner of Lakeside Hospital, Cleveland, believes the mortality is due not so much to method as to the impurities in the gas, and they hope to make it safer by a process of purification which he has devised for the removal of the halogen acids.

It would seem that the question to be determined is not what results a brilliant surgeon like Dr. Geo. W. Crile reports, nor whether Dr. J. Clarence Webster, a distinguished obstetrician with the best trained anesthetists, has any mortality. What is the death rate from the average clinic or in the practice of the physician who is handicapped doing his work without the refinement of equipment of the great hospitals? If death occurs with such startling frequency as has been claimed no further discussion is necessary.

GEORGE CLARK MOSHER, M.D.
Kansas City, Mo., Nov. 16, 1915.

MISCELLANY

SEIZE SUBSTITUTE SPECIFICS

Cheap Imitations of Well-Known Preparations Peddled to Drug Store Proprietors

Office of Information, U. S. Dept. of Agriculture, }
Washington, D. C. }

Several shipments of worthless imitation drug products have been seized by the officials in charge of the enforcement of the Food and Drugs Act. Itinerant peddlers are selling to drug stores large quantities of preparations made up and labeled in imitation of high priced patent medicines of foreign origin. Only small quantities of the genuine medicines have been imported since the war began, causing a great increase in prices. Unscrupulous manufacturers are attempting to reap a harvest by substituting for the genuine medicines cheap chemicals with no medicinal value whatever. In order to make it difficult to trace these preparations to the parties responsible for their manufacture, they are not usually distributed through the regular channels of commerce, but are peddled about to drug stores by itinerants who make immediate delivery at the time of sale.

A preparation put up in imitation of neosalvarsan, a medicine which has largely displaced the preparation known as 606 in the treatment of syphilis, is being distributed to drug stores in this manner. A sample labeled "Neosalvarsan," which was recently examined by the department, was found to be nothing more than salt colored with a coal tar dye, none of the genuine neosalvarsan whatever being present. The label on this product was an exact reproduction of the genuine imported neosalvarsan, or it was an original container refilled with the imitation article.

This fraud is held to be particularly flagrant, according to the medical experts of the department, not alone because a worthless preparation is sold for a high price, but mainly because neosalvarsan is usually administered by injection directly into the blood of the syphilitic patient. The cheap substitute is not only worthless in the treatment of this disease, but when injected directly into the blood might work considerable injury.

Other preparations which are peddled to druggists and purport to be acetylsalicylic acid, commonly known as aspirin, a medicine of foreign origin regularly prescribed by many physicians for certain ailments, have been seized by the officials in charge of the enforcement of the Food and Drugs Act, because an analysis showed that the products were worthless imitations.

Owing to the manner in which these preparations are peddled about, it is difficult to trace the interstate shipment of any of them, and in cases where there has been no interstate shipment the federal Food and Drugs Act has no jurisdiction. On information furnished by the federal authorities some of these imitation goods have been seized by city officials who had authority under state laws to proceed when there had been no interstate shipment.

THE FRESH-AIR CAR

Some of the trains on the Chicago elevated railways are to have fresh-air cars which will be run with all the windows open all winter, provided, of course, there are enough fresh-air fiends in Chicago to justify that course.

We do not know just what actuates the company in adopting this policy. It is possible to hold that the move is a philanthropic one, having in view the health of the people, and then one may say that it is a clever scheme to save coal. The answer any man might give would depend perhaps on where his sympathies lie, but, whatever the explanation may be the country will watch the experiment with interest. The advocates of the closed window accuse the open-window fiend of being a mere attitudinizer; a person who sits in a draft to show off and vaunt himself and make his neighbors feel like molly-coddles. But if the fresh-air fiend really loves fresh air at any temperature he will flock to the open-windowed car, where all the people around him will be as chill-defying as he. Husbands who are for warmth and snugness can try out their wives who are for ventilation, and lots of it, by proposing a temporary separation at the car door. If she chooses to go in it alone in the fresh-air car she proves her addiction to a temperature below 60 to be something more than a pose and establishes a basis for a compromise on the eternal question of how hot it must be to be too hot.

Upon the general aspects of the question we should say that the fresh-air car ought to be more popular than the foul-air car, but not so much sought as the warm-air car with pure air in it would be, if there ever was any such thing. One might expect the fresh-air car to be popular among young people looking for an excuse to sit very close together and hold hands, and perhaps if an arrangement should be contrived to jingle some bells a trip on the fresh-air car might be made into an acceptable substitute for the old-fashioned sleigh ride. That would seem to be the happiest outcome of this new experiment in transportation.—*St. Louis Republic*.

Since Chicago's Sunday lid has been on, it is said that more men report for work Monday mornings and there is a large decrease in the usual Monday accidents. There is also more shopping by the wives of workmen, a feature which must appeal to business men. It is even said that savings bank deposits have increased, but there has scarcely been time enough to note that effect. At any rate Chicago does not appear to have been utterly ruined by it.—*St. Louis Star*.

HOSPITAL SURGEONS MUST NOT DIVIDE FEE

Oklahoma City, Sept. 24, 1915.

DR. CLAUDE THOMPSON, Muskogee, Okla.

Dear Doctor:—I am enclosing you a copy of a resolution that has been passed by the hospital boards of the hospitals of this city and is being signed by those who operate or those who take cases to these hospitals. The Oklahoma City surgeons hope this will be an initiatory step and will extend to all hospitals in the state, and hope you will lend your aid in publishing this resolution in our journal.

Fraternally yours,

J. S. HARTFORD.

At a meeting of the faculty of the School of Medicine of the University of Oklahoma, held in March of this year, the following resolution was passed and approved by the State Board of Education at its meeting of July 14, 15 and 16, and since which time it has been adopted by the hospital management and

signed by the staff members of Wesley and St. Anthony's hospitals.

DECLARATION

I hereby promise on my honor as a gentleman that I will not, so long as I am doing work in connection with the University Hospital, practice division of fees in any form; neither by collecting fees for others referring patients to me; nor by permitting them to collect fees for me; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I, in any way, directly or indirectly, compensate any one referring patients to me; nor will I utilize any man as an assistant, as a subterfuge for this purpose.

I further agree that in case of violation of the above declaration, my connection with the faculty and my privileges in the University Hospital shall be automatically severed.

J. S. HARTFORD,
W. J. WALLACE,
L. J. MOORMAN,
Publicity Committee.

—*Jour. of Oklahoma State Med. Assn.*

EXPERIMENTAL PELLAGRA IN THE HUMAN SUBJECT BROUGHT ABOUT BY A RESTRICTED DIET*

By JOSEPH GOLDBERGER
Surgeon
AND

G. A. WHEELER
Assistant Surgeon, United States Public Health Service

In this communication we present a brief outline, with the results, of an experiment planned to test the possibility of producing pellagra in the healthy human, white, adult male, by a restricted, one-sided, mainly carbohydrate (cereal) diet.

The experiment was carried out at the farm of the Mississippi State Penitentiary, about 8 miles east of Jackson, Miss. At about the center of this farm of some 3,200 acres, well isolated from the surrounding communities, is the "camp," consisting of a group of frame buildings, including the cottages of the officials, the "cage," "new hospital," barns, stables, etc. Dr. A. G. McLaurin, the prison physician, informs us that there is no history of the occurrence or presence of pellagra on this farm.

During the period of the experiment there have been quartered at this "camp" an average of between 70 and 80 convicts, all white males. Included in this number were 12 who, accepting the offer of a pardon made them by Gov. Brewer and with the assurance of proper care and treatment should such be needed, volunteered to submit themselves to the experiment. White adult males were selected because, judged by the incidence in the population at large, these would seem to be least susceptible to the disease.

EXPERIMENT

The volunteer squad of 12 men was organized between February 1 and February 4, 1915. On July 1, 1915, one of the volunteers was released because of the development of a prostatitis. This left 11 men in the squad, 24 to 50 years of age, who have re-

mained in the test, on the prescribed diet, to its termination, Oct. 31, 1915. These men were quartered in the so-called "new hospital building," a small, screened, one-storied cottage, about 500 feet from the "cage" in which the other convicts were domiciled. This cottage had previously been used as the quarters for the "assistant sergeant" of the "camp." From the time of its organization this squad was strictly segregated and under guard day and night.

From February 4 to April 19, 1915, these men were kept under observation without any change being made in their diet. Having detected no evidence of pellagra during this preliminary observation period and having established the desired routine of work and discipline, the diet was changed at noon April 19, 1915. The character of the experimental diet is shown by the following menu:

BILL OF FARE, WEEK ENDED AUG. 8, 1915

August 2

Breakfast: Biscuits, fried mush, grits and brown gravy, sirup, coffee with sugar.

Dinner: Corn bread, cabbage, sweet potatoes, grits, sirup.

Supper: Fried mush, biscuits, rice, gravy, cane sirup, coffee, sugar.

August 3

Breakfast: Biscuits, mush, rice, gravy, sirup, coffee, sugar.

Dinner: Corn bread, collards, sweet potatoes, grits, sirup.

Supper: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

August 4

Breakfast: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

Dinner: Corn bread, collards, sweet potatoes, rice, sirup.

Supper: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

August 5

Breakfast: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

Dinner: Corn bread, collards, sweet potatoes, grits, sirup.

Supper: Biscuits, mush, rice, gravy, sirup, coffee, sugar.

August 6

Breakfast: Biscuits, mush, rice, gravy, sirup, coffee, sugar.

Dinner: Corn bread, collards, sweet potatoes, grits, sirup.

Supper: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

August 7

Breakfast: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

Dinner: Corn bread, collards, sweet potatoes, rice, sirup.

Supper: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

August 8

Breakfast: Biscuits, mush, grits, gravy, sirup, coffee, sugar.

Dinner: Corn bread, collards, sweet potatoes, grits, sirup.

Supper: Biscuits, mush, rice, gravy, sirup, coffee, sugar.

* From Public Health Report, Nov. 12, 1915, Advanced Sheets.

The quantities of the different articles of food consumed during the above named week were as follows:

Biscuits, 41.81 pounds; corn bread, 24.56 pounds; grits, 27.06 pounds; rice, 24.25 pounds; fried mush, 33.87 pounds; brown gravy, 37.81 pounds; sweet potatoes, 23.62 pounds; cabbage, 4.25 pounds; collards, 23.75 pounds; cane sirup, 5.94 pounds, making a total of 255.67 pounds of food consumed during the week, or 3.32 pounds per man per day, having a caloric value of 2,952 calories per man per day. The sugar was white granulated, the sirup a "homemade" cane sirup. No vegetable fats entered into the diet. The corn meal and grits were of the best quality obtainable in the local market and the same as used at one of the orphanages ("M. J."), Jackson, Miss., at which a feeding experiment to prevent pellagra was conducted and at which no pellagra occurred this year.¹

The character of the labor performed by these men during this same week may be judged by the following: Whitewashing fences and buildings, 2½ days; sawing lumber (ram sawmill), 2 days; rest, 2½ days.

Controls.—The entire population of the "camp" was kept under observation. We have, however, given special attention to the group of convicts who were not "trusties" when the experiment was begun; twenty of these have remained under continuous medical surveillance, comparable to that of the volunteers, throughout the whole period of the experiment.

Work.—The volunteers kept about the same hours and did about the same kind and the same amount of work as the other convicts. Such differences as existed were in favor of the volunteers, especially during the latter portion of the experimental period.

Hygiene.—The general sanitary environment was the same for volunteers and controls, but the hygienic environment—personal cleanliness, cleanliness of quarters, freedom from insects, particularly bedbugs—was decidedly in favor of the volunteers.

RESULTS

Of the eleven volunteers, not less than six developed symptoms, including a "typical" dermatitis, justifying a diagnosis of pellagra. The nervous and gastro-intestinal symptoms were mild but distinct. The dermatitis was first noted between September 12 and September 24, 1915, or not later than five months after the beginning of the restricted diet. It is of great interest to note that in all our cases the skin lesions were first recognized on the scrotum. Later there appeared lesions on the backs of the hands in two cases and the back of the neck in one case. The scrotal lesions conformed to the type described and figured by Merk.² This experience would suggest that the scrotal lesion is a much more common early skin manifestation than has heretofore been believed. It would probably have escaped us but for the fact that it was our routine to examine these men, and the special control group, completely stripped.

No person in the "camp" not of the volunteer squad has presented evidence justifying even a suspicion of pellagra.

The diagnosis in the above cases was concurred in by Dr. E. H. Galloway, secretary Mississippi State Board of Health, and Dr. Nolan Stewart, formerly superintendent Mississippi State Hospital for Insane, at Jackson, Miss.

1. Public Health Reports, Oct. 22, 1915.

2. Merk, Ludwig: Die Hauterscheinungen der Pellagra, Innsbruck, 1909, p. 24, Fig. 6.

We are very greatly indebted to Dr. Marcus Haase, professor of dermatology, Medical College of the University of Tennessee, Memphis, Tenn., and to Dr. Martin F. Engman, professor of dermatology in the Washington University Medical School, St. Louis, Mo., for assistance in excluding the other known dermatoses.

CONCLUSION

The conclusion is drawn that pellagra has been caused in at least six of the eleven volunteers as the result of the restricted diet on which they subsisted.

ACKNOWLEDGMENTS

The above experiment was made possible by the cooperation of Governor Brewer, whose interest was enlisted by the intervention of Dr. Galloway. To these gentlemen acknowledgements are due and are here made for their invaluable assistance.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL

(UNDER THIS HEAD WE SHALL LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Madison County Medical Society, Dec. 30, 1914.
Webster County Medical Society, Jan. 1, 1915.
Sullivan County Medical Society, Jan. 2, 1915.
Cooper County Medical Society, Jan. 16, 1915.
Camden County Medical Society, Feb. 2, 1915.
McDonald County Medical Society, Feb. 12, 1915.
Daviess County Medical Society, Feb. 22, 1915.
Christian County Medical Society, March 22, 1915.
Ste. Genevieve County Med. Soc., March 24, 1915.
Atchison County Medical Society, March 25, 1915.
Benton County Medical Society, March 26, 1915.
Schuyler County Medical Society, March 30, 1915.
De Kalb County Medical Society, April 12, 1915.
St. Charles County Medical Society, April 14, 1915.
Barton County Medical Society, April 15, 1915.
Carroll County Medical Society, April 17, 1915.
Platte County Medical Society, April 19, 1915.
Clark County Medical Society, April 19, 1915.
Audrain County Medical Society, April 21, 1915.
Putnam County Medical Society, April 24, 1915.
Grundy County Medical Society, April 26, 1915.
Henry County Medical Society, May 4, 1915.
Franklin County Medical Society, May 6, 1915.
Ray County Medical Society, May 13, 1915.
Laclede County Medical Society, July 2, 1915.
Howell County Medical Society, July 3, 1915.
Holt County Medical Society, July 19, 1915.
Newton County Medical Society, July 21, 1915.
Lawrence-Stone County Med. Soc., Aug. 25, 1915.
Scotland County Medical Society, Oct. 16, 1915.
Chariton County Medical Society, Nov. 12, 1915.
Boone County Medical Society, Nov. 12, 1915.
Adair County Medical Society, Nov. 12, 1915.
Phelps County Medical Society, Nov. 12, 1915.
Gentry County Medical Society, Nov. 13, 1915.
Callaway County Medical Society, Nov. 13, 1915.
Jefferson County Medical Society, Nov. 14, 1915.

SOUTHWEST MISSOURI MEDICAL SOCIETY

The seventy-sixth semiannual meeting of the Southwest Missouri Medical Society met at Springfield, Nov. 4 and 5, 1915, in the rooms of the Physicians' Club. The program:

Dr. G. Wilse Robinson, Kansas City, "Insomnia and Hypnotics." Discussion opened by Drs. J. H. Elliott and S. A. Johnson.

Dr. Howard Hill, Kansas City, "A Stereopticon Talk on Laceration of the Pelvic Floor, the Surgery, Anatomy and Mode of Treatment Based on the Anatomy Parts." Discussion opened by Drs. H. C. Shuttee and Wm. Rienhoff.

Dr. J. P. Baird, Marionville, "Some Results of Plastic and Orthopedic Surgery." Discussion opened by Drs. R. M. Rogers and C. W. Russell.

Dr. C. H. Brown, Fair Play, "Pituitrin in Obstetrics." Discussion opened by Drs. Lee Cox and C. B. Elkins.

Dr. J. C. B. Davis, Willow Springs, "Typhoid Fever." Discussion opened by Drs. A. C. Ames and R. W. Paris.

Dr. L. Henson, Galena, "An Elevation of Temperature, Seven Years Duration." Discussion opened by Drs. W. B. Wasson and O. N. Carter.

Dr. W. R. Beatie, Springfield, "Pyorrhea Alveolaris." Discussion opened by Drs. J. A. Boswell and W. R. Anderson.

Dr. G. B. Dorrell, Springfield, "Morphine-Scopolamine Anesthesia in Obstetrics." Discussion opened by Drs. R. C. Robertson and Lee Cox.

Dr. E. C. Roseberry, Springfield, "Cholecystitis." Discussion opened by Drs. J. P. Baird and C. E. Fulton.

Dr. A. C. Ames, Mountain Grove, "Pneumonia of Childhood." Discussion opened by Drs. F. B. Fuson and L. M. Edens.

Dr. W. J. Wills, Springfield, "Prostatitis." Discussion opened by Drs. J. E. Dewey and A. W. Gifford.

Dr. J. M. Potts, Springfield, "Treatment of Narcotic Drug Addiction." Discussion opened by Drs. W. Rienhoff and A. L. Anderson.

Dr. W. S. Hopkins, Springfield, "Appendicitis." Discussion opened by Drs. H. L. Kerr and W. W. Shafer.

Dr. E. M. Box, Springfield, "The Tonsils as a Focus of Chronic Systemic Infection." Discussion opened by Drs. T. A. Coffelt and Harold Bailey.

Dr. A. D. Knabb, Springfield, "Tuberculosis of the Hip Joint." Discussion opened by Drs. J. A. Harris and J. P. Andrews.

Dr. H. A. Lowe, Springfield, "A Case of Hirschsprung's Disease." Discussion opened by Drs. A. L. Anderson and Wallis Smith.

A banquet was given by the Springfield members on Friday, November 5, at the Colonial Hotel. About 100 physicians registered.

The thirty-ninth semiannual meeting of the Southeast Missouri Medical Association was held at Farmington, Oct. 19, 20, 21, 1915. The association was entertained at 6 o'clock dinner and smoker by the superintendent and staff of State Hospital No. 4, October 10. The program:

Clinic at Hospital No. 4, by Dr. Scrutchfield and staff. "Roentgen-Ray Treatment of Superficial Skin Lesions," by Dr. F. B. Ball, St. Louis. "Twilight Sleep," by Dr. W. Kerwin, St. Louis. "Fifty Years Ago," by Dr. Wm. Nifong, Fredericktown. "Hygiene of Pregnancy," by Dr. P. Baldwin, Kennett. "Management of the Average Case of Obstetrics," by Dr. O. Haley, Fredericktown. "A Paper," by Dr. G. W.

Vinyard, Jackson. "The Physician and the Doctor," by Dr. W. R. Goodykoontz, Clendon. "Malaria in Our Drainage Districts," by J. H. Timberman, Marston.

BENTON COUNTY MEDICAL SOCIETY

The regular meeting of the Benton County Medical Society was held in Warsaw, October 21, in Dr. Dillon's office, 10 to 12 a. m., Dr. T. S. Reese of Cole Camp acting as president pro tem., the president, Dr. Logan of Fairfield, being late.

The meeting was opened in due form. The minutes of the last meeting were read and approved. Dr. Logan arrived during the reading of the minutes with one of his patients for clinical study. The regular form of business was dispensed with and the patient brought into the operating room where a thorough examination was made and the previous history of the case studied. Boy, aged 12, with apparent locomotor ataxia resulting from an attack of throat trouble a few weeks previous. The doctor had made several microscopic examinations of material from the throat and could find no evidence of diphtheria, but the family history indicated tubercular tendency. The prognosis was guarded; treatment, the potassium iodid and the triple arsenates with nuclein.

Dr. W. G. Jones of Lincoln read a very interesting paper on "Diagnosis," with many helpful hints on how to guard against mistakes and better fit ourselves in the first and most fundamental principle in practice, namely, correct diagnosis.

After quite an enthusiastic discussion of this paper Dr. B. F. Windell's application for membership, which had lain over, was brought up and a unanimous vote cast in his favor. Dr. N. A. Schwald's application was referred to the censors to be acted on at the next meeting.

Dr. H. G. Savage advanced the idea that in case of any breach in the principles of ethics between physicians it is our duty to fully investigate the case and at the same time use every effort to bring about brotherly union wherever possible, thus making a stronger spirit of fellowship in our society.

After the discussion of these questions the election of officers for the ensuing year was held, for fear that it might be impossible to have so full attendance at our last meeting of the year. The following officers were elected: president, T. S. Reeser of Cole Camp; vice president, B. F. Windell of Ionia; secretary-treasurer, J. R. Smith of Warsaw (reelected); delegate to the annual meeting of the state association, Willis G. Jones of Lincoln; alternate delegate, Marion Dillon of Warsaw; censor for term of three years, Marion Dillon. In each case only one nomination was made to the office and election by unanimous vote, except in the case of the secretary, who had served for the past four years; he was not allowed a fighting chance even to nominate a successor and a unanimous vote was cast directing that the secretary's yearly dues be paid out of the treasury, all of which was an undeserved compliment, but appreciated just the same.

Dr. Savage's suggestion that in the future all meetings be held in the Public Hall in place of a private office was unanimously accepted. Dr. Rhodes' suggestion that at the next meeting we have a banquet with some invited guests from the state association was favorably acted on and the secretary was instructed to ascertain whom we could secure for that occasion.

On motion for adjournment all repaired to the Bennet House for dinner.

Those present at the meeting were Drs. J. P. Van Allen and T. S. Reeser, Cole Camp; Dr. B. F. Windell of Ionia; Dr. J. A. Logan of Fairfield; Drs. E. F. Haynes, H. G. Savage, Marion Dillon, R. L. Pomeroy and J. R. Smith of Warsaw; Drs. E. L. Rhodes, W. G. Jones and O. L. Cuddy of Lincoln.

The meeting was one of the most interesting ever held by our society, the largest in attendance and overflowing with altruism.

J. R. SMITH, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at Hotel St. Francis, Wednesday evening, October 20, with thirty-four members present, Dr. J. F. Owens in the chair. The minutes of the previous meeting were read and approved.

On motion of Dr. C. A. Good, seconded by Dr. W. T. Elam, the president was authorized to appoint a committee of five whose duties were to cooperate with the officers of the board of health for the purpose of controlling infectious and contagious diseases. The following were appointed: Drs. C. A. Good, Jacob Geiger, O. G. Gleaves, F. H. Ladd and J. F. Owens.

Dr. M. J. Farber called the society's attention to the Hill Side Sanitarium, which was referred to the Public Health and Legislation Committee for report.

One of the best papers of the year was read by Dr. C. A. Good, subject, "The Digitalis Bodies: Their Pharmacology and Therapeutic Use." The discussion was opened by Dr. O. A. Schmid followed by Drs. Elam, Farber, Bansbach, Byrne, Ladd and C. Potter.

A very interesting paper was read by Dr. L. A. Todd on "Abnormal Involution of the Female Breast."

Meeting of Nov. 3, 1915

The regular meeting of the Buchanan County Medical Society was held at their rooms Wednesday evening, November 3, the president, Dr. J. F. Owens, in the chair. Forty-one members were present. The minutes of the previous meeting were read and approved.

Dr. Freeman, federal epidemiologist, was given the privilege of the floor and addressed the society on the subject of controlling epidemics.

Action on the application of Dr. C. H. Werner was deferred for further investigation. The following applications for membership were received and referred to the board of censors for investigation: Dr. Willard C. Proud and Dr. William Roney.

A communication from the secretary of the Missouri Valley Medical Association relating to their meeting in this city next spring was read and following their request a committee was appointed to assist in making arrangements. The committee appointed consists of Drs. C. A. Good, Daniel Morton, F. H. Spencer, A. R. Timmerman and Wm. T. Elam.

On motion of Dr. Kenney, seconded by Dr. Bansbach, it was resolved that our next annual banquet be dry and that ladies be invited. The following committee was appointed to make the necessary arrangements: Drs. Wm. L. Kenney, H. S. Conrad and Caryl Potter.

The following committee was appointed to get in touch with the public health and legislation committee for the purpose of calling on the newspapers and suppressing quack advertisements: Drs. F. H. Ladd, Charles Geiger and C. R. Woodson.

On motion of Dr. Charles Geiger, seconded by Dr. F. H. Spencer, a resolution was passed instructing the president to appoint a committee to wait on the welfare board and offer the services of the members of this society to take care of the welfare patients. The following committee was appointed: Drs. Wm. H. Minton, J. J. Bansbach, J. M. Doyle, H. S. Forgrave and C. R. Woodson.

Dr. Leroi Beck presented a clinical case of suspected syphilis in a young child; no positive diagnosis was made.

Dr. J. J. Bansbach presented a paper entitled "Remarks on Urological Diagnosis with Reports of Cases." This was discussed by Drs. G. A. Lau, Charles Greenburg, T. M. Paul, C. Potter, W. T. Elam and Charles Geiger.

Meeting of November 17

The regular meeting of the Buchanan County Medical Society was held in their rooms Wednesday evening, November 17, the president, Dr. J. F. Owens, in the chair. Twenty-three members were present. The minutes of the previous meeting were read and approved.

The following applications for membership, having received their second reading and duly indorsed by the board of censors, were voted on and the applicants elected to membership. They were Drs. Chas. H. Werner, Willard C. Proud and William Roney.

The banquet committee, through its chairman, Dr. W. L. Kenney, announced December 15 as the date for the annual banquet. On motion of Dr. Ladd, seconded by Dr. Farber, this committee was given full power to act and make all necessary arrangements for the banquet.

Dr. Herbert Lee read a paper on "Diseases Common to Men and Animals," which was discussed by Drs. Rogers, Farber, Reynolds, Ladd, Carl and Stamey.

Dr. M. J. Farber's paper on "Some of the Animal Parasites of the Human Skin" was discussed by Drs. Kenney and Ladd.

A resolution by Dr. Farber that the Buchanan County Medical Society present Dr. C. R. Woodson with a loving cup at the annual banquet to be held December 15 was carried unanimously and the matter placed in the hands of the banquet committee to complete all necessary arrangements.

W. F. GOETZE, M.D., Secretary.

CALLAWAY COUNTY MEDICAL SOCIETY

The Callaway County Medical Society met in Fulton, Nov. 11, 1915, with the following members present: Drs. Blackburn, Crews, Christian, Courshon, McCall, Major Owen, Biggs, Williamson and Yates. The minutes of the previous meeting were read and approved. The special feature of the meeting was a program of lectures by four specially invited guests from Kansas City, Drs. W. W. Duke, T. S. Milne, Howard Hill and S. Grover Burnett.

Dr. W. W. Duke gave a lecture on "Glands of Internal Secretion and Their Relation to Internal Medicine," illustrated with lantern slides. Dr. T. S. Milne, whose address was a joint discussion with Dr. Duke, gave an interesting discussion of the subject illustrated with lantern slides. Drs. Duke and Milne discussed myxedema, acromegaly, cretinism, mongolism and other conditions depending on disorders of the glands of internal secretion. These were scientific lectures and a source of profit and enjoyment to all.

Dr. Howard Hill gave a lecture on "Repair of Lacerations of the Perineum." He gave an account of the anatomy of the perineum, its injuries and operations for repair, all illustrated by lantern slides. His masterly presentation of the subject was very interesting and instructive.

Dr. S. Grover Burnett delivered an entertaining and instructive lecture, taking for his subject "The Brain Cell in Health and Disease." His lecture was also illustrated with lantern slides.

These lectures by our visiting friends were very enjoyable and instructive to our membership and were highly appreciated.

Dr. Crews presented a clinic of empyema of the thorax.

On motion the society adjourned.

MARTIN YATES, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in Harrisonville at 1:30 p. m., Wednesday, October 13. The following members were present: Drs. H. S. Crawford, H. Jerard, R. M. Miller, M. P. Overholser, R. D. Ramey, J. U. Scott and I. S. Triplett. Dr. Herman E. Pearse, Kansas City, and Dr. Amos T. Fisher, St. Joseph, were present as guests of the society. After the reading and adoption of the minutes of last meeting, and reading of communications, the following program was rendered.

Dr. Amos T. Fisher read a paper on "Unnecessary Necessities." It was an excellent paper, largely on the causes of insanity and very interesting and instructive to those who were fortunate enough to hear it.

Dr. Herman E. Pearse gave an illustrated lecture with lantern slides on "Fractures of the Wrist." This was also very interesting and instructive to all who were present. Both papers were freely discussed and many interesting points were brought out. One patient was presented for examination and afterward discussed.

The society is in a prosperous condition and those who attend always feel that they have spent a profitable afternoon.

H. S. CRAWFORD, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held one of its best meetings at the Snapp Hotel in Excelsior Springs, Monday evening, October 25. The meeting opened promptly at 7:30 p. m. with a delicious oyster supper to which twenty-five members and visitors sat down as guests of the popular Snapp hotel. Mrs. Snapp complimented the Clay County Medical Society as being composed of "some of the best physicians in the state." A vote of thanks was extended to Mr. and Mrs. Snapp for their hospitality.

Dr. Spence Redman of Platte City, our esteemed councilor, opened the scientific program with a paper on "Why We Lose So Many Cases of Appendicitis." The reasons for the untoward results, the doctor summoned up as follows: 1. Failure to obtain consent for early operation. 2. Operating at inopportune stages. 3. Cases in the neighborhood that apparently recovered without operation used as argument for delay.

The doctor based his experience on some 200 personal cases in country practice. The paper brought out much harmonious discussion.

Dr. E. H. Skinner of Kansas City followed with a stereopticon lecture on "Roentgen Diagnosis in Abdominal Diseases." He showed every region of the digestive tract plainly outlined by the Roentgen ray after the internal administration of barium sulphate. He favored the barium salt as cheaper and even safer than bismuth. He cautioned against the barium sulphite, it being an ingredient of rat poison. The revelations in Roentgen ray work were exceedingly instructing and demonstrated the wonderful advancement made in this great field of diagnosis.

The papers were discussed by Drs. James T. Rice, George R. Dagg, Eugene C. Robichaux, John H. Rothwell, Enoch H. Miller, Floyd B. Riley, Chicago, Wm. S. Wallace, S. D. Henry and E. L. Parker.

The visitors present were Drs. Spence Redman of Platte City; E. H. Skinner, Kansas City; J. W. Epler, Kearney; S. D. Henry and E. L. Parker, Excelsior Springs, Floyd B. Riley, Chicago.

Dr. J. E. Baird, on behalf of the Elm Hotel, invited the Clay and Jackson County Medical Societies to join in a dinner at the Elms the second Tuesday in December. The invitation was accepted and a great meeting is anticipated.

The Physicians' Supply Company of Kansas City had an interesting exhibit at this meeting.

J. J. GAINES, M.D., Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical society met in the Court House in Herman, Thursday, October 28, for an afternoon and night session. The afternoon session was entirely devoted to the scientific program and the night session was devoted to a public health meeting. In the afternoon Drs. Wm. Engelbach and C. L. Klenk of St. Louis also delivered lectures on topics of hygiene, Dr. Engelbach to the students of the high school and Dr. Klenk to the pupils of the grade school.

The scientific program consisted of a lecture on "Gastric Ulcer," by Dr. Engelbach; a paper by Dr. H. Unterberg of St. Louis on "Drug Addiction"; a paper on "Autogenous Vaccines in Ozena and Nasal Catarrh" by Dr. Klenk, and a paper by Dr. John D. Seba of Bland on "Vomiting During Pregnancy." All the subjects presented were thoroughly discussed by the doctors present.

The night session was entirely devoted to preventive medicine and was open to the public. The Empire Orchestra furnished music interspersed between the speeches. The speakers of the evening session were Dr. Charles L. Klenk of St. Louis, who spoke on "The Preservation of Child Life"; Dr. C. E. Breigleb of St. Clair spoke on "Cancer and Tuberculosis," and Dr. Frank DeVilbiss of Tipton spoke on "The Dangers of Quackery in Medicine."

The following were present: Drs. Wm. Engelbach, C. L. Klenk and H. Unterberg of St. Louis; E. G. Rhodius of Potsdam; I. G. Cook of Morrison; E. L. Haffner, H. J. Rickhoff, W. C. Wessell of Herman; Frank DeVilbiss of Tipton; C. F. Briegleb of St. Clair; John D. Seba of Bland.

JOHN D. SEBA, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in regular session with Dr. R. Hampton at Shawnee Mound. The following members were present: Drs. C. W. Head, J. H. Walton, R. J. Jennings, M. E. Bradley, S. A. Poague, N. I. Stebbins, W. M. Shankland, J. R.

Wallis, president, and F. M. Douglass, secretary. Dr. J. G. Beaty, visitor. The minutes of the previous meeting were read and approved.

Dr. Hampton introduced two very interesting cases for examination and discussion by the doctors. Then followed a discussion of the county society and how to better it and make it more interesting to the individual member who attended; also to get those to attend who had been laggards.

For the next meeting the secretary, by vote of the society, was requested to invite some one of note to speak to the members.

After adjournment the good Dr. Hampton and wife requested the members to remain and enjoy a lunch that had been prepared. No one left until after the table was cleared, which is proof that they were glad to be present and they did so express themselves.

Meeting of November 10

The Henry County Medical Society met in regular session at Clinton, Wednesday, November 10. President J. R. Wallis called the meeting to order at 2 p. m. Members present, Drs. J. R. Wallis, W. H. Gibbins, J. H. Walton, R. J. Jennings, S. A. Poague, W. M. Shankland, A. J. McNeese, R. D. Haire, B. B. Barr, F. A. Blackmore, H. M. Wall, E. C. Peelor, G. W. Berry, J. M. Miller, J. R. Hampton, N. I. Stebbins, R. J. Smith, J. D. Musick and F. M. Douglass. Other doctors present were, R. L. Shadburn, J. G. Beaty, L. L. Smith, S. W. Woltzen, A. Graham, J. G. Walker; Dr. Jabez N. Jackson and W. W. Duke of Kansas City and W. J. Ferguson, Sedalia, councilor of the district, were present on invitation.

Dr. S. A. Poague presented a patient with heart trouble for examination at the clinic. Drs. Walton and Miller made examination and reported to the meeting.

Dr. Jabez N. Jackson talked on "Appendicitis," which was replete with good ideas, giving in detail the many different symptoms that would be observed and how by them the location and extent of the trouble could be recognized. He had found that the attack was ushered in by pain in the stomach and quite often nausea and vomiting; the pain and discomfort in the right iliac came on later. He gave a complete resume of those symptoms that showed the need of quick action and operation and of those that indicated absolute rest both to subject and the parts affected. This was a very instructive and interesting lecture that was listened to with marked attention by all, and commended by a vote of thanks.

Dr. W. W. Duke showed a number of pictures and talked about the effect of the thyroid and pituitary glands upon the body, giving an account of his observations. This was a very pleasing and instructive lecture.

Dr. W. J. Ferguson complimented the members of the society upon the interest shown in the talks and expressed his pleasure in being permitted to attend their meeting and get better acquainted.

There being no other business, one of the best meetings in the history of the Henry County Medical Society came to a close.

F. M. DOUGLASS, M.D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY

The Howard County Medical Society met in the secretary's office at Fayette, Friday, November 5, at 2 p. m., with the president, Dr. J. W. Hawkins of Glasgow in the chair.

Those present were Drs. V. Q. Bonham, J. W. and W. R. Hawkins, W. B. Kitchen, W. M. Pritchett, T. J. Payne, A. W. Moore, J. T. Wood, T. C. Richards and C. W. Watts.

No clinics or papers were presented. The election of officers for 1916 resulted as follows:

President, C. H. Lee; first vice-president, W. M. Pritchett; secretary-treasurer, C. W. Watts; delegate to the State Medical Association for 1916, W. B. Kitchen; alternate, V. Q. Bonham.

After a very pleasant and harmonious session the society adjourned at 4 o'clock.

C. W. WATTS, M.D., Secretary.

JOINT MEETING OF JOHNSON AND CASS COUNTY MEDICAL SOCIETIES

At the suggestion of our good councilor, Dr. H. S. Crawford, the Johnson and Cass County Medical Societies held a joint meeting under the direction of the officers of Johnson County Medical Society in the city of Holden, November 9. The meeting was called to order at 1:30 p. m. and rendered the following program:

Dr. C. C. Conover, Kansas City, "Infection of the Kidney."

Dr. W. G. Thompson, Holden, "Nephritis."

Dr. J. S. Triplett, Harrisonville, "Cathartics."

Dr. C. R. Woodson, St. Joseph, "The Importance of Early Recognition of Mental and Nervous Diseases." Clinics.

Banquet at 7 p. m. at the Talmage House.

This proved to be one of the most successful meetings ever held in the county and of course we feel like expressing our thanks to all of the "out of the county" visitors who assisted either as speakers or listeners. The program was exceptionally strong and the discussion was lively and interesting. We consider this meeting an effort of the fifteenth district and since we have had such splendid results we can heartily recommend district meetings occasionally to awaken interest in society work.

O. B. HALL, M.D., Secretary.

PUTNAM COUNTY MEDICAL SOCIETY

On invitation of the Putnam County Medical Society, Drs. E. J. Goodwin and N. P. Wood visited Unionville, October 16, on the double mission of enlightening the public in general health subjects and inspiring more organization enthusiasm into the physicians of the county.

In the afternoon Dr. Wood delivered an address before a meeting of the school boards of the county on the subject, "What Our Schools Owe the Public." In addition to the board members from the various school districts of the county, many teachers and parents were present. The doctor touched on many points pertaining to school life, sanitation and hygiene, with which every person connected with the schools or having a child in school should be familiar. From the interest manifested in this lecture it is evident it must result in much good to the community.

In the evening Dr. Goodwin delivered an address before a meeting of the Putnam County Medical Society, outlining the work of the state association in a concise and forceful manner that could not help but arouse in his hearers a deeper feeling of pride in their profession, and a keener interest in organization work.

Our only regret is that on account of unfavorable roads many of the physicians of the county were unable to attend these meetings. Our society wishes to extend our thanks to these gentlemen for the courtesy of their visit, and hope to have the pleasure of having both of them with us again.

J. H. HOLMAN, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in regular session in Lancaster, Mo., at the office of Drs. Potter and Potter, October 19. The meeting was called to order by Dr. W. A. Potter, the president, at 2 p. m., with the following members present: Drs. W. H. Zieber of Queen City; J. H. Keller of Glenwood; W. F. Justice, B. B. Potter, W. A. Potter of Lancaster; A. J. Drake, H. E. Gerwig and J. B. Bridges of Downing. The minutes of the last meeting, September 16, were read and approved.

The matter of the "Traveling Doctors" was taken up and on investigation they were both found to be regularly registered.

Dr. H. E. Gerwig read a paper on "Schoolchildren and Their Relation to Eugenics." It was a good paper and was discussed by all the members present.

The time and place was then determined for our next meeting which is December 21, this to be our regular annual meeting. Volunteers for papers were Drs. W. H. Zieber, W. A. Potter, A. J. Drake and J. B. Bridges.

No further business appearing the meeting adjourned. J. B. BRIDGES, M.D., Secretary.

WRIGHT COUNTY MEDICAL SOCIETY

The regular meeting of the Wright County Medical Society was held at Mountain Grove, October 28. After a three-course dinner the members of the society and physicians not members gathered at the City Hall at 1 o'clock.

Dr. R. M. Rogers, president of the society, called the meeting to order. Dr. Rogers made a short address to the society. His remarks were very impressive. "Be truthful to your patients as well as to your fellow practitioners." He also stated that he would rather some other member would be elected to the office of president.

Dr. T. Vannoy of Norwood read a paper entitled "Uremia." This paper was well prepared and aroused a great deal of discussion.

This being the annual meeting, the following officers were elected for 1916: president, Dr. R. A. Ryan, Norwood; vice president, Dr. J. A. Fuson, Mansfield; secretary-treasurer, Dr. E. J. Butzke, Mountain Grove; censor for one year, Dr. A. C. Ames, Mountain Grove; censor for three years, Dr. T. Vannoy, Norwood; delegate, Dr. T. Vannoy, Norwood; alternate, Dr. H. U. Daugherty, Mountain Grove.

The application of Dr. Floyd B. Ricketts was considered and he was elected to membership.

Several of the members of the society have brought suit against an optometrist by name of T. J. Fike, who is practicing medicine without a license. Resolutions were passed that the secretary ask the aid of the state medical association to prosecute this offender.

Resolutions of condolence for Dr. David M. Smith, deceased, written by Drs. J. A. Fuson, A. J. Farmer and B. E. Latimer, were read by Dr. R. M. Rogers. These resolutions were made a part of the regular minutes.

Dr. James R. Davis of Noble, Ozark County, drove thirty-five miles to be present at this meeting. The meeting was the means of getting three old-time physicians of the Ozarks together, namely, Drs. Daugherty, Hubbard and Davis; all three are the same age, namely, 62. Dr. Daugherty and Dr. Hubbard had never met Dr. Davis, although they have practiced in the hills here for from twenty-five to thirty-five years and were members of the society. Dr. Davis says he is coming back.

There being no further business the meeting adjourned until the first Thursday in February to meet at Mansfield. E. J. BUTZKE, M.D., Secretary.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

BISMUTH TRIBROMPHENATE.—Basic bismuth tribromphenate. It is claimed to be a non-irritant and non-toxic antiseptic and an odorless and efficient substitute for iodoform. It is said to be of value in gastro-intestinal catarrh, proctitis, dysentery, diarrheas, etc. Merck & Co., New York (*Jour. A. M. A.*, Nov. 13, 1915, p. 1731).

BUTYL-CHLORAL HYDRATE, MERCK.—A non-proprietary brand of butylchloral hydrate admitted to New and Nonofficial Remedies. Merck & Co., New York (*Jour. A. M. A.*, Nov. 13, 1915, p. 1731).

ETHYL BROMIDE, MERCK.—A non-proprietary brand of ethyl bromide admitted to New and Nonofficial Remedies. Merck & Co., New York.

HOMATROPINE HYDROCHLORIDE, MERCK.—A non-proprietary brand of homatropine hydrochloride admitted to New and Nonofficial Remedies. Merck & Co., New York.

SODIUM CACODYLATE, MERCK.—A non-proprietary brand of sodium cacodylate admitted to New and Nonofficial Remedies. Merck & Co., New York.

IODOTHYRINE TABLETS, 3 GRAINS.—Each tablet contains iodothyryne 3 grains. The Bayer Company, Inc., New York.

THYRESOL PEARLS, 5 GRAINS.—Each pearl contains thyresol 5 grains. The Bayer Company, Inc., New York.

THEOCIN-SODIUM ACETATE TABLETS 1½ GRAINS.—Each tablet contains theocin-sodium acetate 0.1 Gm. The Bayer Company, Inc., New York.

AMPULS EMETINE HYDROCHLORIDE, MULFORD 1/12 GRAIN.—Each ampule contains emetine hydrochloride 0.005 Gm. H. K. Mulford Co., Philadelphia.

AMPULS EMETINE HYDROCHLORIDE, MULFORD 1/3 GRAIN.—Each ampule contains emetine hydrochloride 0.02 Gm. H. K. Mulford Co., Philadelphia.

AMPULS EMETINE HYDROCHLORIDE, MULFORD, 2/3 GRAIN.—Each ampule contains emetine hydrochloride 0.04 Gm. H. K. Mulford Co., Philadelphia.

AMPULS SODIUM CACODYLATE, MULFORD, 1½ GRAINS.—Each ampule contains sodium cacodylate 0.1 Gm. H. K. Mulford Co., Philadelphia.

AMPULS SODIUM CACODYLATE, MULFORD, 3 GRAINS.—Each ampule contains sodium cacodylate 0.2 Gm. H. K. Mulford Co., Philadelphia.

AMPULS QUININE AND UREA HYDROCHLORIDE, 1%, MULFORD.—Each ampule contains 5 Cc. of a sterile 1 per cent. solution of quinine and urea hydrochloride. H. K. Mulford Co., Philadelphia.

AMPULS MERCURY SUCCINIMIDE, MULFORD, 1/6 GRAIN.—Each ampule contains mercury succinimide 0.01 Gm. H. K. Mulford Co., Philadelphia.

CALCIUM PEROXIDE, P. W. R.—A non-proprietary preparation of calcium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

MAGNESIUM PEROXIDE, P. W. R.—A non-proprietary preparation of magnesium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

SODIUM PEROXIDE, P. W. R.—A non-proprietary preparation of sodium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

STRONTIUM PEROXIDE, P. W. R.—A non-proprietary preparation of strontium peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

ZINC PEROXIDE, P. W. R.—A non-proprietary preparation of zinc peroxide admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

SODIUM PERBORATE, P. W. R.—A non-proprietary preparation of sodium perborate admitted to New and Nonofficial Remedies. Powers-Weightman-Rosengarten Co., Philadelphia.

FORMIC ACID, MERCK.—A non-proprietary preparation of formic acid admitted to New and Nonofficial Remedies. Merck & Co., New York.

AGAR AGAR POWDER, MERCK.—A non-proprietary preparation of agar agar admitted to New and Nonofficial Remedies. Merck & Co., New York.

AGAR AGAR SHREDS, MERCK.—A non-proprietary preparation of agar agar admitted to New and Nonofficial Remedies. Merck & Co., New York.

BERBERINE HYDROCHLORIDE, MERCK.—A non-proprietary preparation of Berberine hydrochloride admitted to New and Nonofficial Remedies. Merck & Co., New York.

FLUORESCEIN, MERCK.—A non-proprietary preparation of fluorescein admitted to New and Nonofficial Remedies. Merck & Co., New York.

MERCURY CYANIDE, MERCK.—A non-proprietary preparation of mercury cyanide admitted to New and Nonofficial Remedies. Merck & Co., New York.

MERCURY AND POTASSIUM IODIDE, MERCK.—A non-proprietary preparation of potassium mercuric-iodide admitted to New and Nonofficial Remedies. Merck & Co., New York.

SWAN'S TYPHOID BACTERIN (No. 44) (PROPHYLACTIC).—Marketed in packages of three 1 Cc. vials and also in packages of six 1 Cc. vials. Swan-Myers Company, Indianapolis, Ind. (*Jour. A. M. A.*, Nov. 27, 1915, p. 1915).

PROPAGANDA FOR REFORM

SWAN'S RHEUMATIC BACTERIN (MIXED) No. 47.—According to the manufacturer, The Swan-Myers Co., Indianapolis, Ind., this preparation contains pneumococci, Friedlaender's bacilli and streptococci (polyvalent). The Council on Pharmacy and Chemistry

refused to admit this vaccine to New and Nonofficial Remedies because there is no satisfactory evidence that either the pneumococcus or Friedlaender bacillus is concerned in the etiology of acute or chronic rheumatism or rheumatoid arthritis and no conclusive evidence that the streptococcus is an etiologic factor (*Jour. A. M. A.*, Nov. 6, 1915, p. 1662).

ELIXIR IODO-BROMIDE OF CALCIUM COMP.—The Tilden Company, New Lebanon, N. Y. and St. Louis, Mo., sells "Elixir Iodo-Bromide of Calcium Comp. without Mercury" and "Elixir Iodo-Bromide of Calcium Comp. with Mercury." The latter is said to contain, in addition to the ingredients of the former, 1/100 gr. mercuric chloride in each fluidram. The "formula" of the elixir without mercury is stated to be: "Salts of Iodine, Bromine, Potassium, Sodium, Calcium, Magnesium with Stillingia, Sarsaparilla, Rumex, Dulcamara, Lappa, Taraxacum, Menispermum." Advertising circulars give "formulas" which differ somewhat from the preceding. None of the "formulas" gives the quantities of all of the several constituents. The Tilden Company asks physicians to depend on these preparations in the treatment of syphilis. While it seems incredible that any physician would jeopardize the health—even the life—of a patient by accepting this advice, the fact that certain medical journals advertise these preparations with the caption "The Conquest of Syphilis" made it incumbent on the Council on Pharmacy and Chemistry to record its condemnation of the employment of these unscientific, semisecret mixtures (*Jour. A. M. A.*, Nov. 6, 1915, p. 1662).

THE AUTOLYSIN TREATMENT.—There were strong evidences from the beginning of a commercial spirit in the exploitation of this treatment. Letters sent to physicians further illustrate the method of promoting this unproved and possibly dangerous treatment. Dr. Richard Weil, who had the opportunity of personally witnessing the application of this compound in a long series of cases at the General Memorial Hospital, expresses the belief that autolysin is useless, that it adds nothing of value to the methods now generally accepted, and that it often aggravates the sufferings and accelerates the death of the patient (*Jour. A. M. A.*, Nov. 6, 1915, pp. 1641, 1647 and 1662).

VARLEX COMPOUND.—This is an alleged cure of the liquor and tobacco habit of the "prescription fake" variety. Advertisements advise the secret administration of: Water 3 ounces, muriate of ammonia 20 grains, Varlex Compound one package, pepsin 10 grains. The A. M. A. Chemical Laboratory reports that Varlex Compound consisted of approximately 97 per cent. milk sugar and 3 per cent. moisture (*Jour. A. M. A.*, Nov. 6, 1915, p. 1663).

ALKALOL.—Analysis in the A. M. A. Chemical Laboratory indicated Alkalol, which is advertised as useful in inflammations of the nose and throat, to be essentially an aromatized, weakly alkaline, saline solution containing a small amount of chlorate, probably potassium chlorate; it yielded about 2 per cent. of solids, mainly alkali chlorid, chlorate and bicarbonate, of this 2 per cent. about one half was bicarbonate (*Jour. A. M. A.*, Nov. 6, 1915, p. 1665).

DR. CHARLES' FLESH FOOD.—This is an ointment sold under such claims as "Applied to the skin nourishes by absorption" and "it builds firm, healthy flesh." It is also said to be an efficient bust developer. Analysis in the A. M. A. Chemical Laboratory indicated the following: starch 38.5 per cent., petrolatum 51.0 per cent., zinc oxide 2.0 per cent., impure stearic acid 1.5 per cent., perfume, coloring matter (*Jour. A. M. A.*, Nov. 13, 1915, p. 1747).

INTESTI-FERMIN.—"May we count on your assistance" ingenuously inquires the Berlin Laboratory, Ltd., in an advertisement appearing in a medical journal, and with cool effrontery continues "We are telling the layman about Intesti-Fermin . . . May we count on your assistance in spreading this message to everyone . . . ?" May they? (*Jour. A. M. A.*, Nov. 13, 1915, p. 1736).

FRECKLE AND BEAUTY LOTIONS.—The worthlessness and, in many instances, the dangerous character of nostrums sold as freckle removers and beautifying preparations are indicated by the following analyses, taken from the reports of various state chemists: Hill's Freckle Lotion was found to be a 1.84 per cent. solution of corrosive mercuric chloride. Kingsbery's Freckle Lotion was found to be a solution of corrosive mercuric chloride containing 5.3 parts in 1000. Kulux Compound, a "prescription fake" freckle and tan remover, was found to contain zinc oxide, bismuth subcarbonate, glycerine and water. Mrs. McCarrison's Famous Diamond Lotion No. 1, said to remove moths, freckles, pimples, etc. was found to be essentially a solution of 28.2 parts of corrosive mercuric chloride in 1000 of water. Neroxin, a "prescription fake" said to remove blackheads, was found to contain borax 55 per cent. and "soda" 25 per cent. Othine, sold as a freckle remover, is reported to contain bismuth subnitrate and ammoniated mercury with a fatty base. Perry's Moth and Freckle Lotion Compound was found to be a 16 in 1000 solution of corrosive mercuric chloride containing in addition a small amount of a lead salt. Pyroxin, sold on the "prescription fake" plan as an eyebrow and eyelash grower, was found to be perfumed vaseline. Rose-Kayloin, advertised in fake health departments of some newspapers, was found to contain 80 per cent. sulphate and 15 per cent. potassium carbonate. Mme. Rupert's Face Bleach is reported to be a 4 in 1000 alcoholic solution of corrosive mercuric chloride, containing a small amount of benzoin. Stillman's Freckle Cream was found to be an ammoniated mercury paste. Tan-A-Zin, a complexion beautifier, was found to have for its essential ingredient ammoniated mercury. Sarah Thompson's "Wrinkle Lotion" was found to contain alum 7 per cent., glycerine 29 per cent. and water 64 per cent. Zintone, said to produce a faultless complexion quickly, is reported to contain borax 23 per cent., stearic acid and soap 77 per cent. Though the external use of mercury salts is fraught with danger, the nostrums above shown to contain such poisonous ingredients are sold with the claim that they are practically harmless (*Jour. A. M. A.*, Nov. 20, 1915, p. 1835 and Nov. 27, 1915, p. 1933).

ANESTHESIN.—Anesthesin is paramino-ethyl-benzoate. New and Nonofficial Remedies states that it is one of the products which owe their existence to the discovery that the local anesthetic action of cocaine

is due to the radical of benzoic acid in combination with a nitrogen-containing basic group. Treasury Decision 2184 contemplates the registration of anesthesin under the Harrison narcotic law (*Jour. A. M. A.*, Nov. 20, 1915, p. 1837).

LAXATIVE BROMO QUININE.—From the analysis of the A. M. A. Chemical Laboratory it appears that each tablet of Laxative Bromo Quinine contains, as essential ingredients, phenacetin about 2 grs., caffeine 1/5 gr., quinine or cinchona alkaloids 2/5 gr. and aloin or aloes. While the name gives the impression that bromine and quinine are the important ingredients, the bromide content corresponds only to 1/500 part of a pharmacopoeial dose of potassium bromide. In order to get a pharmacopoeial dose of quinine, it would be necessary to take ten Laxative Bromo Quinine Tablets. If this were done, the person would get twenty grains phenacetin, a dangerously poisonous dose. As phenacetin is the essential ingredient of Laxative Bromo Quinine it is evident that this widely exploited nostrum is misbranded (*Jour. A. M. A.*, Nov. 27, 1915, p. 1932).

IODEOL AND IODAGOL.—Both appear to be iodine preparations. They are advertised as "Electro-Chemical Colloidal Iodine." Iodeol is recommended as "Iodine with all its potentialities . . . stripped of all its drawbacks—non-irritating, non-caustic, non-toxic, non-cumulative, injectable without pain." No adequate evidence is offered in support of the therapeutic claims made for Iodeol and Iodagol, although the assertions as to the action of Iodeol in tuberculosis and pneumonia, in particular, are susceptible of test by laboratory and animal investigation (*Jour. A. M. A.*, Nov. 27, 1915, p. 1935).

BOOK REVIEWS

THE CLINICS OF JOHN B. MURPHY, M.D., AT MERCY HOSPITAL, CHICAGO, OCTOBER, 1915.

This issue contains 228 pages. There are twenty-six subjects discussed, including carcinoma of various tissues, gun-shot wounds, fractures, dislocations, resection of tuberculous joints and other timely topics. There are numerous illustrations elucidating the text.

ANNALS OF SURGERY FOR NOVEMBER.

This issue contains eleven articles on a variety of topics and is adequately illustrated. The leading article on Mesenteric Thrombosis is contributed by Ellsworth Eliot, Jr., and J. W. Jameson, New York. This is followed by a report of a case of splenectomy by Charles L. Scudder, Boston. The other articles are: The Diagnosis of Appendicitis, by Ralph Winslow, Baltimore; Typhoid Perforation, by John H. Gibbon, Philadelphia; The Transverse Abdominal Incision, by Willy Meyer, New York; The Closure of Muco-Cutaneous Fecal Fistulae, by Edwin Beer, New York; An Anatomical Study of Femoral Hernia, by T. Turner Thomas, Philadelphia; The Clinical Status of the Autograft, by Arthur Ayer Law, Minneapolis; Fractures of the Femur, by Carl R. Steinke, Philadelphia; End Results in Fractures, by Rutherford L. John, Philadelphia.

INDEX TO VOLUME XII

A	PAGE		PAGE
Adcock, D. C.—Some Neuroretinal Conditions..	253	Blair, V. P.—Factors of Safety in Goiter Opera-	446
Adhesions, Abdominal, A Question in Dealing		tions	249
with—Nifong	528	Blood Pressure in Pregnancy and Labor—Raab..	249
Advertise, An Invitation to—Editorial.....	383	Blood, A Simple and Accurate Method for the	
Advertisements, New	76	Estimation of Sugar in the—Knerr.....	160
Advertising by Physicians—Miscellany.....	390	Blackmore, T. A.—Suppurations of the Kidney..	409
Aiken, George Alfred—Rational Obstetrics.....	369	Blood Transfusion—Reder	255
Alborem—Propaganda for Reform.....	43	Board of Censors, The Functions of the—Child..	211
Alcresta Ipecac Tablets—N. N. R.....	143	Bolton, J. W.—Lodge Practice.....	158
Alfatone—Propaganda for Reform.....	431	Bone Regeneration, Reviewing the Subject of—	
A. M. A. Meeting, Excursion to San Francisco		Beedle	490
for the—Editorial	24	Bovine, About—Correspondence	424
Amendment to the Constitution—Editorial.....	73	Books Added to Library of St. Louis Medical	
American Medical Association, the—Editorial... 383		Society—Miscellany	511
Ames, A. C.—Summer Diarrheas of Children... 269		Books and Bound Journals Added to the Library	
Ampules Imido, Roche—N. N. R.....	315	of St. Louis Medical Society—Miscellany.... 290	
Analutol—Propaganda for Reform.....	144	Book Reviews—	
Andreas Vesalius	117	Allen, Carroll W.—Local and Regional Anes-	
Andreas Vesalius—Editorial	133	thesia. W. B. Saunders Co.....	90
Anesthesia, Discrimination in the Use of Methods		Annals of Surgery (September).....	474
to Produce Surgical—Fischel.....	433	Annals of Surgery (November).....	564
Angiomas, Roentgenotherapy for—Skinner..... 411		Bernheim, Bertram M.—Surgery of the Vas-	
Annual Session, Arrangements Completed for the		cular System. J. B. Lippincott Co.....	90
—Editorial	221	Hare, Hobart Amory—Progressive Medicine.	
Annual Session, the Program for the—Editorial 179		Lea & Febiger.....	196
Anti-Fee-Splitting Bill Passed, Kansas—Mis-		Horsley, J. Shelton—Surgery of the Blood Ves-	
cellany	427	sels. C. V. Mosby Co.....	432
Antinarcotic Law, Osteopaths and the—Miscellany 425		Kaplan, D. M.—Serology of Nervous and Men-	
Antinarcotic Law, the—Editorial.....	74	tal Diseases. W. B. Saunders Co.....	196
Antinarcotic Law, the Harrison: Its Effect on		Morris, Robert T.—Microbes and Men. Doc-	
Habitués—Editorial	179	tors versus Folks. A Surgeon's Philosophy.	
Anti-Pneumococcic Serum—N. N. R.....	473	Doubleclay, Page & Co.....	516
Antitoxin, Diphtheria, the Intravenous and Intra-		Moynihan, Sir Berkeley—Abdominal Opera-	
muscular Administration of—Veeder.....	145	tions. W. B. Saunders Co.....	44
Antivivisection Inquiry, An—Miscellany.....	333	Murphy, John B.—The Surgical Clinics of	
Antox—Propaganda for Reform.....	398	John B. Murphy. W. B. Saunders Co..89, 196,	564
Aortic Arch, Motility of the—Hoxie.....	413	Sadler, William S.—Worry and Nervousness—	
Apergols—Propaganda for Reform.....	44	or the Science of Self-Mastery. A. C.	
Appendicitis in Children—Clopton.....	94	McClurg & Co.....	89
Aphakia, Congenital—A Clinical Report—Sherer:478		Brady, Jules M.—Hemorrhagic Disease of the	
Arbutin, Merck—New and Nonofficial Remedies. 43		New-Born	21
Asthma, Bronchial, Some Observations on—Brown 19		Brain Abstess, Otitic—Sauer.....	201
Asthma, Treatment of—Correspondence.....	79	Bronchial Asthma, Observations on—Brown.... 19	
Assembly, The Forty-Eighth General—Editorial. 178		Brown, O. H.—Some Observations on Bronchial	
Autogenous Serum Therapy in Certain Derma-		Asthma	19
toses—Weiss	377	Brown, Orville Harry—A Practical Sterilizing	
		Pocket Thermometer Case.....	498
		Budwell's Emulsion—Propaganda for Reform... 144	
		Bullock, E. S.—Truth and Tuberculosis.....	302
		Burford, C. E.—Kidney Tuberculosis: With Spe-	
		cial Reference to Some Inoperable Cases.... 403	
		Burnham's Soluble Iodine—Propaganda.....	298
B		C	
Baking-Powder Problem, The—Editorial.....	280	Calcreose—Propaganda for Reform.....	352
Bannerman's Intravenous Solution—Propaganda. 88		Caldwell's Syrup Pepsin—Propaganda for Reform 398	
Barnes, Francis M., Jr.—The Psychoses Associ-		Calol Liquid Petrolatum, Heavy—N. N. R.....	473
ated with Tabes Dorsalis.....	53	Camphor, Natural and Synthetic—Propaganda.. 516	
Barnes Hospital of St. Louis, The—Miscellany.. 27		Cancer "Cures," Beware of—Miscellany.....	288
Barnett, Matty Lee C.—Erythema Multiforme		Cancer in Missouri, The Campaign Against—	
with Conjunctival Involvement.....	381	Miscellany	469
Bartels, Leo—Report of Cases of Cerebrospinal		Cancer, The Organization of Natural and Local	
Syphilis Treated with Salvarsanized Serum.. 262		Forces in the Campaign Against—Lakeman.. 451	
Bartels, Leo—Diseases of the Verumontanum... 493		Cancer, The Treatment of Inoperable.....	323
Bartlett, Willard—A Method of Surgical Treat-		Cancer, What Knowledge Shall Be Imparted to	
ment for Floating Kidney.....	152	the Laity Concerning—Lutz.....	5
Beedle, Gordon A.—Reviewing the Subject of		Cancer, Why we Should Have a War Against	
Bone Regeneration	490	—Miscellany	331
Benzene, Medicinal—N. N. R.....	87	Cantharidin—New and Nonofficial Remedies.... 87	
Benzene, Merck, H. P. Crystallizable—N. N. R.. 87		Cantharidin (Merck)—N. N. R.....	143
Betanaphthol Benzoate—Merck—N. N. R.....	473	Cardui, the Story of a Nostrum—Propaganda... 516	
Betanaphthyl Salicylate—N. N. R.....	515	Carotid Body, Tumors of the—Russell.....	521
Bctol—New and Nonofficial Remedies.....	515		
Better Babies' Health Conference—Editorial... 330			
Betul-ol—Propaganda for Reform.....	43		
Biologists at St. Louis, The—Editorial.....	23		
Blood Changes in Tuberculosis, The—Duke..... 99			

	PAGE		PAGE
Castle, O. L.—Chronic Cystic Mastitis.....	523	Diphtheria Antitoxin, the Intravenous and Intra-	
Caustic Applicators, Special (Silver Nitrate, 50		muscular Administration of—Veeder.....	145
Per Cent.)—New and Nonofficial Remedies..	397	Diphtheria Antitoxin, Globulin—N. N. R.....	473
Celerina, Aletris Cordial and Kennedy's Pinus		Diphtheria Epidemics, the Schick Reaction in the	
Canadensis, Light and Dark—Propaganda...	143	Handling of—Moody and Woodruff.....	148
Censors, Duties of—Editorial.....	223	Disease Carriers—Miscellany	287
Cephaeline—New and Nonofficial Remedies.....	352	Doctor's Hard Job, The—Miscellany.....	428
Cerebrospinal Syphilis, Report of Cases of,		Doctor's Protest, The.....	219
Treated with Salvarsanized Serum—Bartels.	262	Doctor, The—From a Layman's Standpoint—	
Child, Scott P.—The Functions of the Board of		Miscellany	427
Censors	211	Dorsett, Dr. Walter B., Death of—Editorial....	385
Chionia—Propaganda for Reform.....	247	Druggists, Beware of Drug Pedlers—Editorial..	548
Chiropody Bill, The—Miscellany.....	139	Dues, Important to Pay Now—Editorial.....	178
Chiropractic Bill, Vote on the—Editorial.....	224	Duke, Wm. W.—The Blood Changes in Tubercu-	
Cholera Serobacterin, Mulford (Sensitized Cholera		losis.....	99
Vaccine)—New and Nonofficial Remedies....	195	Duke, W. W.—A Note on the Differential Diag-	
Chromaffin System and Glands of Internal Secre-		nosis of Tympanites and Pneumo-peritonitis	70
tion—Sundwall	312	Dulin, E. A.—Treatment of the Pneumonias....	155
Citarin—Propaganda for Reform.....	144	Duodenin, Armour—Propaganda for Reform....	431
Clopton, Malvern B.—Appendicitis in Children..	94		
Club-Foot, Treatment of Congenital—Stone.....	406	E	
Coagulen, Ciba—New and Nonofficial Remedies..	473	Ear Disease, Functional Testing in—McCarty....	204
Cod Liver Oil Cordials—Propaganda for Reform	144	Easy Money	278
Cod Liver Oil Versus Milk, Butter and Eggs—		Echinacea—Propaganda for Reform	398
Propaganda for Reform.....	144	Echitisia, Echthol and Echitone—Propaganda....	88
Colchi-Sal—Propaganda for Reform.....	196	Economics of the Practice of Medicine, The—	
Color Blindness, The Present Status of, with		Shuttee	299
Demonstration of a New Test—Jennings....	251	Editorials—	
Congenital Heart Lesions in Infancy and Child-		A. M. A. Meeting, Excursion to San Francisco	
hood—Schorer	399	for the	24
Contagious Diseases, Reporting—Editorial.....	75	Amendment to the Constitution.....	73
Converse Treatment, The—Propaganda.....	248	American Medical Association, The.....	383
Committees at St. Joseph for the State Associa-		Andreas Vesalius	133
tion Meetings, May 10, 11, 12.....	223	Antinarcotic Law, The.....	74
Correspondence	138	Arrangements for the Annual Session.....	221
Correspondence—		Baking-Powder Problem, The.....	280
Asthma, Treatment of.....	79	Better Babies' Health Conference.....	330
Bovinine, About	424	Beware the Secret Formula—"Venarsen" in	
Nitrous Oxide-Oxygen Anesthesia.....	554	That Class	24
Practicing Medicine Without a License.....	553	Biologists at St. Louis, The.....	23
Reprint Should Have Page Number of the		Committees at St. Joseph for the State Asso-	
Journal	554	ciation Meeting, May 10, 11, 12.....	223
Tuberculosis, Preparation for	553	County Society Secretaries, The.....	279
Twilight Sleep	467	Dade County Organized.....	547
Council of Pharmacy and Chemistry, Special		Dedication of the New Buildings of the Wash-	
Report of the—Miscellany.....	390	ington University Medical School.....	180
County Society Roll of Honor.....	31, 189, 333, 395, 469, 513	Death of Dr. Walter B. Dorsett.....	385
Crank, A. C.—The Surgical Treatment of Goiter	420	Druggists, Beware of Drug Pedlers.....	548
Croney's (Dr.) Specific for Epilepsy—Propa-		Duties of Censors.....	223
ganda for Reform.....	248	Edwin Nelson Tobey, M.D.....	500
Cupric Applicators (Copper Sulphate 20-25 Per		End of Fiscal Year—Pay Your Dues.....	547
Cent.)—New and Nonofficial Remedies.....	43	Excerpts from Other Journals.....	462
Cypridol Capsules—Propaganda for Reform....	44	Fee-Splitting, Expelled For.....	500
Cystogen, Cystogen Aperient and Cystogen-		Fifty-Eighth Annual Meeting, St. Joseph, May	
Lithia—Propaganda for Reform.....	43	10, 11, 12, 1915.....	73
Cysto-Sedative—Propaganda for Reform.....	43	Fifty-Eighth Annual Meeting, The.....	279
Cystoscopic Report of a Case of Hematuria—		Forty-Eighth General Assembly, The.....	178
Goldman	419	Goat, The	460
		Gold Medal to Jackson County Medical Society	
		Milk Commission	422
		Harrison Antinarcotic Law, The: Its Effect on	
		Habitues	179
		Harrison Antinarcotic Law, Where to Address	
		Internal Revenue Collectors to Register Under	134
		Harrison Narcotic Law, The.....	221
		Health Propaganda, St. Louis Globe-Democrat	
		Aids — Editorial.....	547
		Health Sunday at St. Joseph.....	281
		Heath, George M., Arrested.....	460
		Ho! for the St. Joseph Meeting!.....	223
		Hospital Change at Sedalia.....	461
		Hospital, The Special.....	330
		Hotels and Rates at St. Joseph.....	225

D

Dacryocystitis, The Operative Treatment of	
Chronic—Tooker	274
Dade County Organized—Editorial.....	547
Dedication of the New Buildings of the Wash-	
ington University Medical School—Editorial	180
Dermatology, Some Modern Ideas in—Grindon..	373
Dermatoses, Autogenous Serum Therapy in Cer-	
tain—Weiss	377
Desiccated Pineal Gland, Armour—N. N. R....	473
Diabetes Mellitus, A Further Note on the Use of	
Raw Starch in the Treatment of—Knerr..	71
Diarrheas, Summer, of Children—Ames.....	269
Digitoxin, Merck—New and Nonofficial Remedies	87

	PAGE		PAGE
Important to Pay Dues Now.....	178	Freckleless—Propaganda for Reform.....	248
Invitation to Advertise, An.....	383	Fresh-Air Car, The—Miscellany.....	555
Kansas City Department of Health.....	179	Functions of the Board of Censors, The Child....	211
McDonald County Medical Society Organized..	134		
Medical Laboratory at St. Joseph.....	132	G	
Missouri Foundation for Health Conservation	75	Gastric Symptoms, Surgical Lesions as Etiological	
Monument to Medical Science, A.....	280	Factors in—Smith	206
New Jersey in Line.....	461	Gastric Ulcer, Laboratory Aid in the Diagnosis of	
Optometry Bill Defeated in the House of Rep-		—Penney	266
resentatives—Status of Other Bills.....	132	Gastric Ulcer, Roentgen-ray Aids in Diagnosis of	
Optometry Bill Introduced	73	—Hall	267
Osteopath is Not a Physician, The.....	422	Gastric Ulcer, The Surgical Treatment of—	
Osteopath to the Rescue, The.....	544	McKay	268
Papers Read at the Annual Meeting Are the		Gastritis, Chronic—Whitman	149
Property of the State Medical Association...	282	Gastrogen Tablets—Propaganda for Reform....	44
Pediatric Progress	328	Gave Bogus Doctor "Limit"—Miscellany.....	185
Pellagra Experimentally Produced.....	545	Geiger, Jacob—An Unusual Extra-Peritoneal Ab-	
"Personal and Strictly Confidential".....	459	dominal Neoplasm	543
Poisonous Fly Destroyers.....	74	Gellhorn, George, and Kerwin, William—Obser-	
Preparedness	544	vations on the Use of Scopolamin-Narcotin	
President-Elect, The, of the A. M. A.....	385	During Labor	533
Program, The, for the Annual Session.....	179	G. G. Phenoleum Disinfectant—Propaganda.....	89
Public Health Sunday at St. Joseph.....	222	Glands of Internal Secretion, Chromaffin System	
Quiet Zones	23	and—Sundwall	312
Reporting Contagious Diseases.....	75	Globeol—Propaganda for Reform.....	474
Reregister Before July 1 Under Harrison Law..	282	Glycosuria, Postanesthetic, Purity of Ether and	
Resolves to Collect 1916 Dues Early.....	500	—Propaganda for Reform.....	144
Shuttee, Henry C., M.D.....	221	Glycotauro Capsules—N. N. R.....	88
Society Meetings	459	Goat, The—Editorial	460
Special Meeting of the Judicial Council.....	325	Goiter Operations, Factors of Safety in—Blair....	446
St. Joseph Session, The.....	133	Goiter, The Surgical Treatment of—Crank.....	420
St. Louis Globe-Democrat Aids Health Propa-		Goiter, The Surgery of—Hill.....	449
ganda	547	Gold Medal to Jackson County Medical Society	
State Sanatorium for Tuberculosis, The.....	75	Milk Commission—Editorial	422
Stung Again	385	Goldman, Max—Cystoscopic Report of a Case of	
Thompson Malted Food Company—"Hebo"....	24	Hematuria	419
Trained Nurses and Their Duties.....	548	Gorgas, Dr., Panama Before the Advent of—Jen-	
Vice Presidents, Our.....	460	nings	379
Vote on the Chiropractic Bill.....	224	Grant's Epilepsy Cure—Propaganda for Reform..	474
Wine of Cardui.....	134	Gray's Glycerine Tonic—Propaganda for Reform	398
Woodson, Charles R., M.D.....	328	Grindon, Joseph—Some Modern Ideas in Derma-	
Edwards, O. L.—Peptic Ulcer.....	264	tology	373
Electro-Chemical Ring, The—Propaganda.....	248	Guertin's Nerve Syrup—Propaganda for Reform..	196
E-Lep-Tine—Propaganda for Reform.....	352		
Elliott, James H.—Pain and Its Significance....	49	H	
Enzymol—New and Nonofficial Remedies.....	398	Hagee's Cordial—Propaganda for Reform.....	247
Episan (Brobor)—Propaganda for Reform....	474	Hall, Fred B.—Roentgen-ray Aids in Diagnosis of	
Ergoapiol—Propaganda for Reform.....	43	Gastric Ulcer	267
Erythema Multiforme With Conjunctival Involvement—		Hall, Frederic A.—An Address in Memory of Dr.	
Barnett	381	Washington Emil Fischel	174
Examination of Candidates for Assistant Surgeon		Hammar, Frank V.—An Address in Memory of	
—Miscellany	288	Dr. Washington Emil Fischel.....	166
Excerpts from Other Journals—Editorial.....	462	Hardy, W. F.—The Squinting Child.....	67
		Harrison Antinarcotic Law, Internal Revenue Dis-	
F		tricts and Counties in Each District for Reg-	
Fahlen, F.—Some Types of Myocardial Disease..	486	istration Under	116
Falsely Labeled Medicines, Fifty—Miscellany....	507	Harrison Antinarcotic Law: Its Effect on	
Fee, Hospital Surgeons Must Not Divide—Mis-		Habitues—Editorial	179
cellany	555	Harrison Antinarcotic Law, Where to Address In-	
Fee-Splitting, Expelled for—Editorial.....	500	ternal Revenue Collectors to Register Under	
Fifty-Eighth Annual Meeting, St. Joseph, May		—Editorial	134
10, 11, 12, 1915—Editorial.....	73	Harrison Narcotic Law, The—Editorial.....	221
Filudine—Propaganda for Reform.....	474	Hayden's Viburnum Compound—Propaganda....	89
First-Aid Conference, American—Miscellany....	506	Henderson, James P.—Renal Tuberculosis.....	401
Fiscal Year, End of—Pay Your Dues—Editorial..	547	Hematuria, Cystoscopic Report of a Case of—	
Fischel, Ellis—Discrimination in the Use of Meth-		Goldman	419
ods to Produce Surgical Anesthesia.....	433	Hemorrhagic Disease of the New-Born—Brady..	21
Fischel, Dr. Washington E., In Memory of.....	161	Herbetta Curine—Propaganda for Reform.....	352
Fisher Remedy—Propaganda for Reform.....	432	Heredity—Statler	375
Floating Kidney, A Method of Surgical Treatment		Hertzler, Arthur E.—Thyroidectomy Under Local	
for—Bartlett	152	Anesthesia	45
Formamint—Propaganda for Reform.....	432		

	PAGE		PAGE
Hexo-Co-Sal-In—Propaganda for Reform.....	515	Johnson, S. A.—The Perversions of Consciousness in Mental Disease.....	58
Health, Kansas City Department of—Editorial..	179	Joint Syphilis—O'Reilly	103
Health Sunday	346	Jubol—Propaganda for Reform.....	431
Health Sunday at St. Joseph—Editorial.....	281	Judicial Council, Meeting of the—Editorial....	325
Health Work, Adequate, Impossible Under the Constitution of Missouri—Morton.....	7		
Heart Block, A Case of, Illustrating the Mode of Action of the Vagus Nerve on the Heart—Robinson	363	K	
Heart Lesions, Congenital, in Infancy and Childhood—Schorer	399	Kansas City Department of Health—Editorial... 179	
Heart, Surgery of the—Kirchner.....	1	Keller's Tuberculin Test Plate—Propaganda....	44
Heath, George M., Arrested—Editorial.....	460	Kidney, Floating, A Method of Surgical Treatment for—Bartlett	152
Hill, Roland—The Surgery of Goiter.....	449	Kidney, Suppurations of the—Blackmore.....	409
Histamine Hydrochloride—N. N. R.....	515	Kidney Tuberculosis: With Special Reference to Some Inoperable Cases—Burford.....	403
Hodgkin's Disease—Ives	439	Kirchner, Walter C. G.—Surgery of the Heart..	1
Hodgkin's Disease; With Report of a Case Which Yielded Positive Cultures—Ives.....	91	Dr. Kline's Nerve Remedy—Propaganda.....	195
Honor Roll, The.....	25	Knerr, E. B.—An Accurate and Rapid Estimation of Sugar in Urine.....	322
Horowitz-Beebe Cancer Cure—Propaganda...398,	474	Knerr, E. B.—A Further Note on the Use of Raw Starch in the Treatment of Diabetes Mellitus	71
Hospital Change at Sedalia—Editorial.....	461	Knerr, E. B.—A Simple and Accurate Method for the Estimation of Sugar in the Blood... 160	
Hospital, A Missouri State—Jesse.....	276		
Hospital, St. Louis Children's—Miscellany	30	L	
Hospital, the Special—Editorial.....	330	Labor, Observations on the Use of Scopolamin-Narcotin During—Gellhorn and Kerwin.....	533
Hotels and Rates at St. Joseph—Editorial....180,	225	Laboratory Aid in the Diagnosis of Gastric Ulcer — Penney.....	266
Houchen's "Family Physician"—Propaganda....	398	Laboratory Reports, Some Common Mistakes in the Interpretation of—Harms.....	428
Hoxie, G. H.—Motility of the Aortic Arch.....	413	Lactobacilline Omitted from N. N. R.—Propaganda for Reform.....	248
Hydragogin—Propaganda for Reform.....	474	Lactopeptine and Elixir Lactopeptine — Propaganda for Reform.....	516
	I	Lactopeptine, A Therapeutic Absurdity—Propaganda for Reform.....	516
Icteric Diseases of the New-Born Infant, The—Zahorsky	113	Lakeman, Curtis E.—The Organization of National and Local Forces in the Campaign Against Cancer	451
Illinois Not Guilty—Miscellany.....	185	Larosan Roche—New and Nonofficial Remedies..	473
Imido, Roche—New and Nonofficial Remedies....	515	Lepso—Propaganda for Reform.....	352
Important to Pay Dues Now—Editorial.....	178	Leukocyte Extract—N. N. R.....	87
Infantile Syphilis and Neosalvarsan—Neff.....	356	Leukocyte Extract, Squibb—N. N. R.....	87
Infection, Chronic Focal, of the Nose, Throat and Ear as a Cause of General Infection—Reed. 208		Licentiates in Missouri, New.....	286
Information for Persons Desiring to Enter the Medical Corps of the United States Navy—Miscellany	288	Liquid Paraffin (Liquid Petrolatum)—Propaganda for Reform.....	195
In Memory of Dr. Washington E. Fischel.....	161	Liquid Petrolatum—Propaganda for Reform....	398
Insanity Increase, Does? With a Review of the First Two Thousand Cases at State Hospital No. 4, Farmington, Mo.—Long.....	214	Lobar Pneumonia—Putman	457
Insidious Mastoiditis—Shapleigh	197	Lodge Practice—Bolton	158
Internal Revenue Districts and Counties in Each District for Registration Under Harrison Antinarcotic Law	116	Long, Frank L.—Does Insanity Increase? With a Review of the First Two Thousand Cases at State Hospital No. 4, Farmington, Mo....	214
Intestinal Antiseptic W-A—Propaganda.....	44	Luetin—New and Nonofficial Remedies.....	87
Intra-Ocular Sarcoma—A Report of Four Cases —Thompson	475	Luetin, Mulford—New and Nonofficial Remedies	88
Intravenous Radium Solution—Propaganda.....	352	Lutz, F. J.—What Knowledge Shall Be Imparted to the Laity Concerning Cancer.....	5
Iodalia—Propaganda for Reform.....	44		
Iodex—Propaganda for Reform.....	352	M	
Iod-Izd-Oil (Miller's)—Propaganda for Reform. 515		Martel's (Dr.) Female Pills—Propaganda.....	398
Iodotone—Propaganda for Reform.....	44	Mastitis, Chronic Cystic—Castle.....	523
Iodum Miller—Propaganda for Reform.....	515	Mastoiditis, Insidious—Shapleigh	197
Ives, George—Hodgkin's Disease.....	439	May's, Dr., Formula—Propaganda for Reform..	247
Ives, George—Hodgkin's Disease; With Report of a Case which Yielded Positive Cultures... 91		McCarty, Virgil W.—Functional Testing in Ear Diseases	204
	J	McDonald County Medical Society Organized—Editorial	134
Jacobi, Abraham—An Address in Memory of Dr. Washington Emil Fischel.....	169	McKay, H. S.—The Surgical Treatment of Gastric Ulcer	268
Jennings, J. Ellis—Panama Before the Advent of Dr. Gorgas	379	McLean, Mary H.—A Clinical Contribution to the Study of Uterine Fibroids.....	415
Jennings, J. Ellis—The Present Status of Color Blindness with Demonstration of a New Test	251	Medicine, Byways of—Wittwer.....	452
Jesse, Richard Henry—A Missouri State Hospital	276	Medical Laboratory at St. Joseph—Editorial....	132
Jesse, Richard Henry—Missouri Institute of Public Health	9	Medical Man, The—Miscellany.....	287

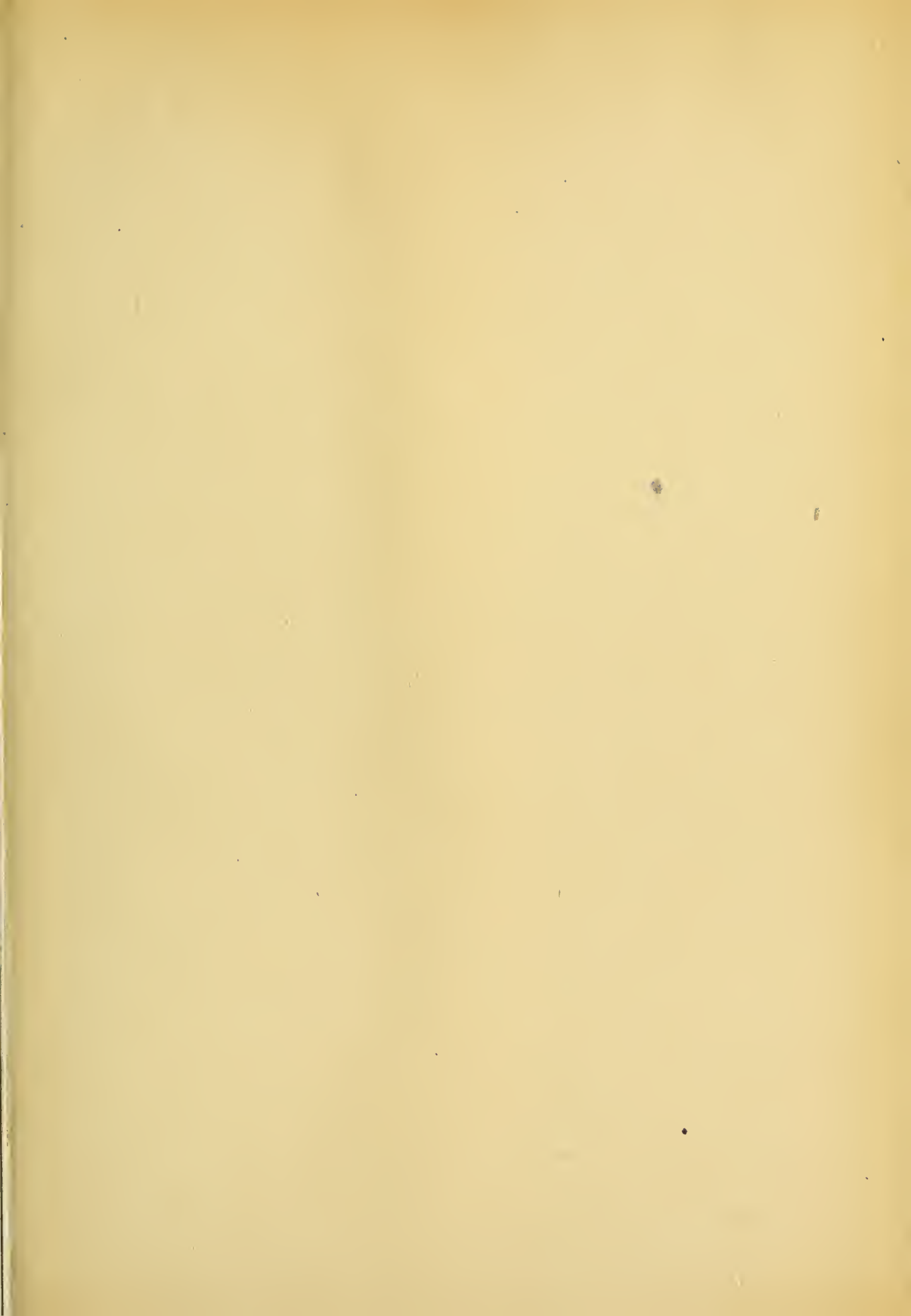
	PAGE		PAGE
Meeting, the Fifty-Eighth Annual—Editorial.....	279	Remedies for Indigestion Must be Properly	
Membership Changes—		Prepared and Sold While Fresh.....	29
December	26	Salicylic Acid Compounds.....	29
January	79	Seize Substitute Specifics.....	555
February	137	Senate Bill No. 416.....	80
March	184	Shun Traveling Quacks.....	333
April	233	Some Common Mistakes in the Interpretation	
May	287	of Laboratory Reports—Franz H. Harms....	428
June	330	Special Report of the Council of Pharmacy	
July	388	and Chemistry	390
August	424	St. Louis Children's Hospital.....	30
September	466	St. Louis Eye, Ear, Nose and Throat Infirmary	
October	504	—Resolutions on the Death of Dr. Horatio	
November	552	Nelson Spencer	505
Membership, Our—Miscellany	27	St. Joseph, May 10, 11, 12.....	235
Members Registered at the Fifty-Eighth Annual		Ten Per Cent. Commission.....	467
Meeting, St. Joseph, May 10, 11, 12.....	346	Treasurer's Report, 1914-1915.....	389
Memorial Services in Honor of Dr. M. H. Post	229	Well Done, Sedalians.....	505
Meningo-Serobacterin, Mulford (Sensitized Men-		Who Is to Blame?.....	185
ingococcus Vaccine)—N. N. R.....	195	Why We Should Have a War Against Cancer..	331
Mental Defectives, Missouri's—Robinson.....	108	William R. Nelson's Services to the Medical	
Mental Diseases, The Perversions of Conscious-		Profession	332
ness in—Johnson	58	Missouri Foundation for Health Conservation...	81
Mercurialized Serum, Nos. 1, 2, 3, 4, 5, 6—New		Missouri Foundation for Health Conservation,	
and Nonofficial Remedies.....	515	The — Editorial.....	75
Mercurialized Serum, Mulford—N. N. R.....	515	Missouri Institute of Public Health—Jesse.....	9
Micajah's Uterine Wafers and Piso's Tablets—		Missouri State Hospital, A—Jesse.....	276
Propaganda for Reform.....	474	M. I. S. T. No. 2 (Murray's Infallible System	
Minutes of the General Session.....	340	Tonic)—Propaganda for Reform.....	398
Miscellany—		Mixed Vaccines—Propaganda for Reform.....	432
Advertising by Physicians.....	390	Monument to Medical Science, A—Editorial....	280
American First-Aid Conference.....	506	Moody, Ellsworth E., and Woodruff, M. C.—	
Antivivisection Inquiry, An.....	333	The Schick Reaction in the Handling of	
Barnes Hospital of St. Louis, The.....	27	Diphtheria Epidemics	148
Books Added to Library of St. Louis Med. Soc.	511	Moore, Dr. William Grant: In Memorium.....	226
Books and Bound Journals Added to the Li-		Morton, Daniel—Adequate Health Work Impos-	
brary of St. Louis Medical Society.....	290	sible Under the Constitution of Missouri....	7
Cancer "Cures," Beware of.....	288	Motility of the Aortic Arch—Hoxie.....	413
Cancer in Missouri, the Campaign Against....	469	Mountain Valley Spring Water—Propaganda....	398
Chiropody Bill, The.....	139	Muns, Walden E.—Peripheral Vasomotor Changes	
Dedication of New Buildings of the Washing-		in Schock	482
ton University Medical School.....	289	Myocardial Disease, Some Types of—Fahlen....	486
Disease "Carriers"	287		
Doctor from a Layman's Standpoint, The....	427		
Doctor's Hard Job, The.....	428		
Examination of Candidates for Asst. Surg..	288		
Fifty Falsely Labeled Medicines.....	507		
Fresh-Air Car, The.....	555		
Gave Bogus Doctor "Limit".....	185		
Hospital Surgeons Must Not Divide Fee.....	555		
Illinois Not Guilty.....	185		
Information for Persons Desiring to Enter the			
Medical Corps of the United States Navy..	288		
Kansas Anti-Fee-Splitting Bill Passed.....	427		
Medical Man, The.....	287		
Membership, Our	27		
Missouri Foundation for Health Conservation..	81		
Novocain and Its Dangers.....	506		
Now Its a "Survey".....	505		
Optometry, Opposing	138		
Oskaloosa, Congratulations!	332		
Osteopaths and the Antinarcotic Law.....	425		
Patten in Pink Whiskers.....	509		
Pellagra, Experimental, in the Human Subject	556		
Pennsylvania Optometry Bill Vetoed.....	331		
Physician, The Commercial.....	389		
Politics and State Hospitals—Dr. Scrutchfield's			
Letter	29		
Preliminary Program of the Dedication of the			
New Buildings of Washington University			
Medical School	186		
Proof and Prophecy.....	185		
Public Hygiene and Public Muddlers.....	468		
Punishment	504		

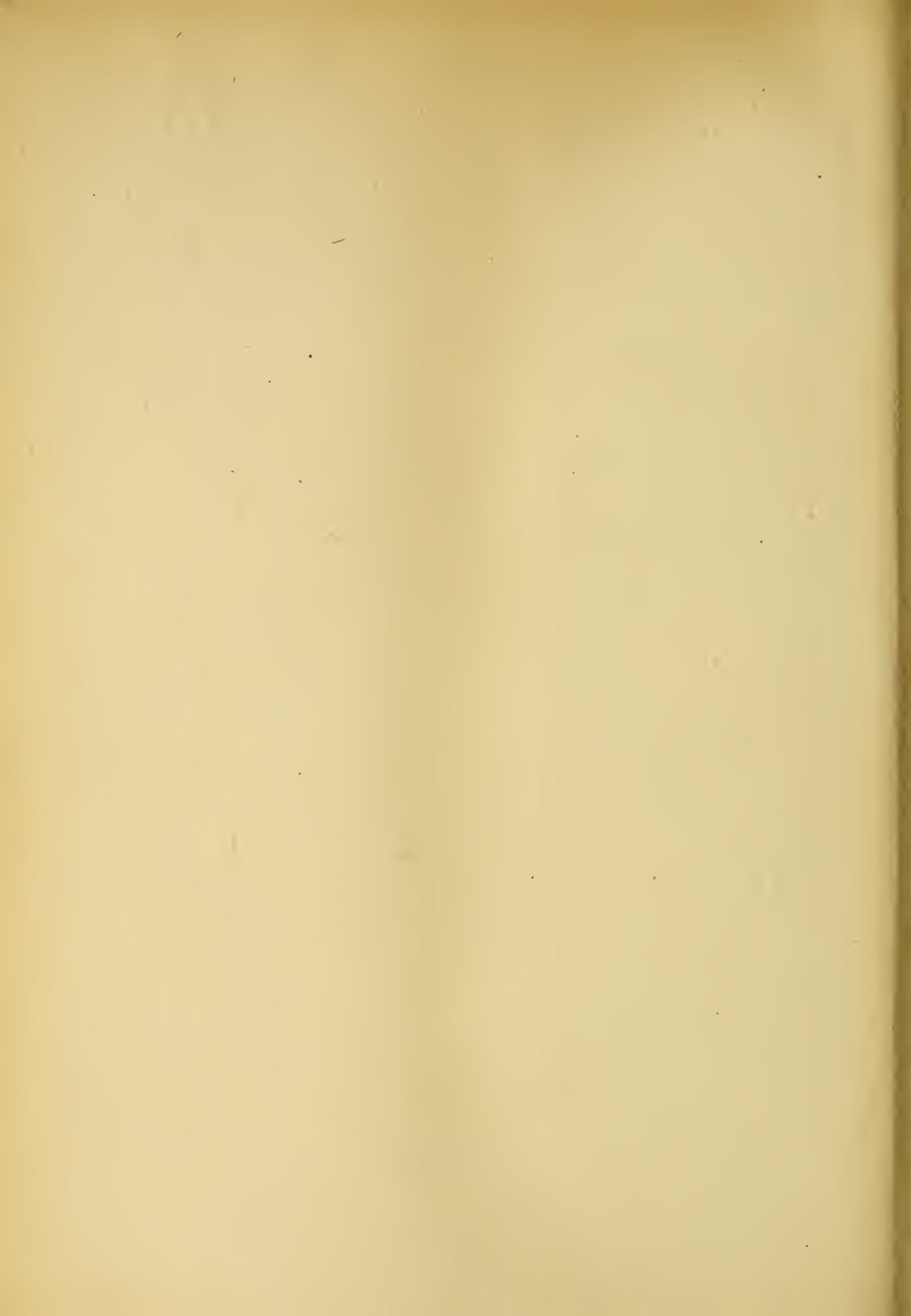
N

Narcosis, Experience with Scopolamin-Narcofin	
—Tilles	530
Neff, Frank C.—Infantile Syphilis and Neosal-	
varsan	356
Neff, Frank C.—Tuberculosis in Childhood.....	13
Nelson's, William R., Services to the Medical	
Profession — Miscellany.....	332
Neoplasm, An Unusual Extra-Peritoneal Abdomi-	
nal—Geiger	543
Neuralgia, The Treatment of—Robinson.....	60
Neurilla—Propaganda for Reform.....	196
Neurosine, Dioivburnia, Germileum and Palpe-	
brine—Propaganda for Reform.....	88
Neuroretinal Conditions of Minor Gravity, Some	
—Adcock	253
New and Nonofficial Remedies.....	
....43, 87, 143, 195, 247, 298, 352, 397, 473, 515,	562
New Jersey in Line—Editorial.....	461
News Notes.25, 77, 136, 182, 231, 284, 387, 463, 503,	550
N. F. Imitation of Elixir Lactopeptine, The—	
Propaganda for Reform.....	516
Nifong, Frank G.—A Question in Dealing with	
Abdominal Adhesions	528
Nitrous Oxide-Oxygen Anesthesia—Editorial....	554
Nomenclature of Drugs—Propaganda for Reform	298
Normal Serum (From the Horse)—N. N. R....	473
Nose, Throat and Ear, Chronic Infection of the,	
as a Cause of General Infection—Reed.....	208
Nourry Wine—Propaganda for Reform.....	44
Novocain and Its Dangers—Miscellany.....	506
Now It's a "Survey"—Miscellany.....	505

O	PAGE	P	PAGE
Obstetrics, Progress in, for 1914—Van Eman..	442	Pain and Its Significance—Elliott.....	49
Obstetrics, Rational—Aiken	369	Panama Before the Advent of Dr. Gorgas—Jennings	379
Obituary—		Pantopon (Pantopium Hydrochloricum) — New and Nonofficial Remedies.....	473
Bazan, Dr. John J.....	502	Papaverine—New and Nonofficial Remedies.....	298
Beale, Dr. Landon A.....	181	Papers Read at the Annual Meeting Are the Property of the State Medical Association—Editorial	282
Bennett, Dr. Robert S.....	76	Pasteur Antirabic Vaccine—New and Nonofficial Remedies	43
Boyd, Dr. F. Robert.....	25	"Patent Medicines," for External Application, Some—Propaganda for Reform.....	576
Bronson, Dr. Ira T.....	182	Patten in Pink Whiskers—Miscellany.....	509
Brown, Dr. G. P. S.....	462	Peacock's Bromides—Propaganda for Reform...	247
Bryan, Dr. Gregory George.....	182	Pediatric Progress—Editorial	328
Carriere, Dr. Charles Louis.....	502	Peeble's Epilepsy Cure—Propaganda for Reform	89
Campbell, Dr. Warren M.....	25	Pellagra Experimentally Produced—Editorial...	545
Coons, Dr. James N.....	548	Pellagra, Experimental, Produced by Restricted Diet—Miscellany	556
Cottingham, Dr. Ira A.....	135	Penney, David L.—Laboratory Aid in the Diagnosis of Gastric Ulcer.....	266
Dorsett, Dr. Walter Blackburn.....	422	Peptic Ulcer—Edwards	264
Dumbauld, Dr. David F.....	502	Peripheral Vasomotor Changes in Shock—Muns	482
Fischer, Dr. Waldemar E.....	76	"Personal and Strictly Confidential"—Editorial..	459
Frank, Dr. John N.....	283	Pertussis Vaccine—Propaganda for Reform...	432
French, Dr. John G.....	225	Pfingsten, C. F.—Otitic Sinus Thrombosis.....	257
Garnett, Dr. H. C.....	135	Phytin and Fortossan—Propaganda for Reform..	89
Hanawalt, Dr. Henry O.....	549	Pituitary Extract, Solution—N. N. R.....	43
Johnson, Dr. J. McBride.....	76	Pneumonia, Lobar—Putman	457
Julian, Dr. Horace M.....	182	Pneumonias, Treatment of the—Dulin.....	155
Kelly, Dr. Samuel G.....	283	Pocket Cards	25
Klokke, Dr. W. Emil.....	462	Poisonous Fly Destroyers—Editorial.....	74
Klueber, Dr. Hugo C.....	225	Poliomyelitis: With Report of Cases—Shy.....	217
Knight, Dr. Z. T.....	225	Politics and State Hospitals—Dr. Scrutchfield's Letter	29
Lamaster, Dr. W. L.....	225, 283	Post, Dr. M. H., Memorial Services in Honor of	229
Merrell, Dr. Albert.....	462	Practicing Medicine Without a License—Correspondence	553
McBaine, Dr. Richard H.....	549	Pregnancy and Labor, Blood Pressure in—Raab.	249
McGee, Dr. Daniel W.....	226	President-Elect of the American Medical Association, The—Editorial	385
McLaughlin, Dr. Josiah C.....	462	Practice of Medicine, The Economics of the—Shuttee	299
McNeil, Dr. George Ernest.....	502	Preparedness—Editorial	554
Miller, Dr. Sherman.....	548	Program, The, for the Annual Session—Editorial	179
Mitchell, Dr. Elmer Lincoln.....	502	Program, Preliminary, of the Dedication of the New Buildings of Washington University	
Moore, Dr. William Grant.....	76, 276	Medical School—Miscellany	186
Mosby, Dr. William W.....	182	Proof and Prophecy—Miscellany.....	185
Mustard, Dr. Harry James.....	283	Propaganda for Reform.....	43, 88, 143, 195, 247, 298, 352, 398, 431, 474, 515, 563
Nash, Dr. George Allen.....	76	Prunoids—Propaganda for Reform.....	88
Palmer, Dr. P. C.....	462	Public Health Sunday at St. Joseph—Editorial...	222
Papin, Dr. John R.....	548	Public Hygiene and Public Muddlers—Miscellany	468
Parrish, Dr. George John.....	182	Pulse, The Alternating—Taussig.....	362
Patton, Dr. Charles W.....	182	Punishment — Miscellany.....	504
Pierounet, Dr. Alfred.....	387	Putman, Ola—Lobar Pneumonia.....	457
Pollmann, Dr. Ludwig P.....	135		
Post, Dr. M. H.....	229		
Reber, Dr. Lyman S.....	182		
Ross, Dr. Thomas Benton.....	225		
Ruyle, Dr. Henry J.....	225		
Schulte, Dr. Francis August.....	181		
Smith, Dr. David M.....	463		
Spencer, Dr. Horatio N.....	463		
Tappan, Dr. Francis A.....	135		
Temm, Dr. Francis A.....	462		
Webb, Dr. William E.....	283		
Yokum, Dr. Guilford D.....	283		
Oil-of-Salt—Propaganda for Reform.....	432		
Olivine—Propaganda for Reform.....	248		
O'Neil's Malt Whisky—Propaganda for Reform.	398		
Optometry Bill Defeated in the House of Representatives—Status of Other Bills—Editorial.	132		
Optometry Bill Introduced—Editorial.....	73		
Optometry Bill Vetoed, Pennsylvania—Miscellany	331		
Optometry Bill, Vote on.....	180		
O'Reilly, Archer—Joint Syphilis.....	103		
Oskaloosa, Congratulations!—Miscellany	332		
Osteopaths and the Antinarcotic Law—Miscellany	425		
Osteopath is Not a Physician, The—Editorial...	422		
Osteopath to the Rescue, The—Editorial.....	544		
Otitis Brain Abscess—Sauer.....	301		
Otitic Sinus Thrombosis—Pfingsten.....	257		
Oubain Ampules, H. W. & Co.—N. N. R.....	352		
Ousley, James Whitman—Chronic Gastritis.....	149		
Oxyphathor, The—Propaganda for Reform.....	298		
		Q	
		Quacks, Shun Traveling—Miscellany.....	333
		Quality of Bland's Pills, The—Propaganda....	248
		Quickstep, Frye's Remedy—Propaganda.....	398
		Quiet Zones—Editorial	23
		R	
		Raab, F. Henry—Blood Pressure in Pregnancy and Labor	249
		Radio-Rem—Propaganda for Reform.....	89
		Radio-Rem, Outfit No. 4—N. N. R.....	515
		Radium Bromide—New and Nonofficial Remedies	43
		Radium Carbonate—N. N. R.....	43
		Radium Sulphate, Radium Co. of America—New and Nonofficial Remedies.....	43

	PAGE		PAGE
Reder, F.—Blood Transfusion.....	255	Silver Lactate, Merck—N. N. R.....	87
Reed, William M.—Chronic Focal Infection of the Nose, Throat and Ear as a Cause of General Infection	208	Skin Grafts in Ulcers.....	72
Remedies for Indigestion Must Be Properly Prepared and Sold While Fresh—Miscellany....	29	Skinner, E. H.—Roentgenotherapy for Angiomas	411
Renal Tuberculosis—Henderson	401	Skoog, A. L.—Treatment of Tabes Dorsalis....	310
Report of Committee on Revision of Constitution and By-Laws.....	336	Smith, Carroll—Surgical Lesions as Etiological Factors in Gastric Symptoms.....	206
Report of the Committee on Scientific Work....	345	Society Proceedings—	
Report of Council on Health and Public Instruction	345	Adair County Medical Society.....	429, 513
Report of Councilors	339	American Section of International Association of Medical Museums.....	193
Report of Defense Committee	342	Bates County Medical Society.....	37, 429
Report of the Publication Committee	344	Benton County Medical Society.....	37, 193, 295, 395, 429, 558
Report of the Secretary-Editor	344	Buchanan County Medical Society.....	38, 84, 141, 194, 295, 350, 513, 559
Reprint Should Have Page Number of the Journal—Correspondence	554	Callaway County Medical Society.....	296, 350, 429, 471, 559
Reregister Before July 1 Under Harrison Law—Editorial	282	Cape Girardeau County Medical Society.....	141, 194, 350, 395, 430, 471
Resolves to Collect 1916 Dues Early—Editorial..	500	Carter-Shannon County Medical Society....	38, 350
Rheumalgine—Propaganda for Reform.....	352	Cass County Medical Society.....	38, 141, 296, 350, 430, 560
Robinson, G. Canby—A Case of Heart Block Illustrating the Mode of Action of the Vagus Nerve on the Heart.....	363	Clay County Medical Society.....	84, 142, 244, 296, 351, 395, 430, 471, 560
Robinson, G. Wilse—Missouri's Mental Defectives	108	Clinton County Medical Society.....	38
Robinson, G. Wilse—The Treatment of Neuralgia	60	Cooper County Medical Society.....	39, 85
Roentgenotherapy for Angiomas—Skinner.....	411	Davies County Medical Society.....	85
Roentgen-Ray Aids in Diagnosis of Gastric Ulcer—Hall	267	Gasconade-Maries-Osage County Medical Society	245, 297, 560
Rowe, H. J.—The Commercial Physician—Miscellany	389	Greene County Medical Society.....	39, 245
Russell, C. W.—Tumors of the Carotid Body, With Report of a Case.....	521	Grundy County Medical Society.....	39
S			
Sachs, Ernest—Factors That Make for Better Results in Cranial Surgery.....	517	Henry County Medical Society.....	39, 85, 351, 395, 471, 560
Salesthyll and Sal-Hyl—Propaganda for Reform.	144	Holt County Medical Society.....	86
Salicylic Acid Compounds—Miscellany.....	29	Howard County Medical Society.....	39, 245, 297, 472, 561
Sanmetto—Propaganda for Reform.....	196	Howell County Medical Society.....	142, 396
Sarcoma, Intra-Ocular—A Report of Four Cases—Thompson	475	Johnson County Medical Society.....	86, 514
Sauer, W. E.—Otitic Brain Abscess.....	201	Joint Meeting of the Johnson and Cass County Medical Societies	561
Sa-Yo Mint Jujubes—Propaganda for Reform..	398	Laclede County Medical Society.....	40, 514
Schick Reaction in the Handling of Diphtheria Epidemics, The—Moody and Woodruff.....	148	Lawrence-Stone County Medical Society.....	40, 194, 351, 472
Schorer, Edwin Henry—Congenital Heart Lesions in Infancy and Childhood.....	399	Lewis County Medical Society.....	86, 195
Schwarz, Otto H.—Scopolamin-Narcofin Seminarsis	541	Marion County Medical Society.....	87
Scopolamin-Narcofin, Observations on the Use of, During Labor—Gellhorn and Kerwin.....	533	McDonald County Medical Society.....	142
Scopolamin-Narcofin Narcosis, Experience with—Tilles	530	Missouri State Medical Association...189, 238, 333	
Scopolamin-Narcofin Seminarsis—Schwarz....	541	Monroe County Medical Society.....	514
Scopolamine Stable, Roche—N. N. R.....	473	Montgomery County Medical Society.....	246, 297
Secretaries, The County Society—Editorial.....	279	Pemiscot County Medical Society.....	87
Secretogen—Propaganda for Reform.....	298	Pettis County Medical Society.....	40
Sedobrol "Roche"—Propaganda for Reform....	88	Pike County Medical Society.....	297, 472
Senate Bill No. 416—Miscellany.....	80	Platte County Medical Society.....	396
Shahan, W. E.—Some Convenient Stereoscopic Figures	381	Polk County Medical Society.....	40, 195, 472
Shapleigh, John Blasdel—An Address in Memory of Dr. Washington Emil Fischel.....	161	Putnam County Medical Society.....	561
Shapleigh, J. B.—Insidious Mastoiditis.....	197	Ralls and Marion Counties Medical Societies, Joint Meeting of.....	514
Sheldon, John G.—Some Factors in Surgery of the Stomach and Duodenum.....	65	Randolph County Medical Society.....	246, 397
Sherer, J. W.—Congenital Aphakia—A Clinical Report	478	Reynolds County Medical Society.....	297, 397
Shock, Peripheral Vasomotor Changes in—Muns	482	Saline County Medical Society.....	142
Shuttee, Henry C.—Editorial.....	221	Schuyler County Medical Society.....	41, 397, 515, 562
Shuttee, Henry C.—The Economics of the Practice of Medicine.....	299	Shelby County Medical Society.....	41, 430
Shy, D. E.—Poliomyelitis: With Report of Cases	217	Southwest Missouri Medical Society.....	558
Silver Citrate, Merck—N. N. R.....	87	Ste. Genevieve County Medical Society.....	87
		St. Louis County Medical Society.....	33, 191, 242, 292, 470
		Surgeon's Club of St. Louis, The.....	239
		Vernon and Bates Counties Medical Society, Joint Session of.....	41
		Vernon County Medical Society.....	246, 430
		Washington University Medical Society..	31, 82, 189
		Wayne County Medical Society.....	42, 143
		Webster County Medical Society.....	195, 397, 472
		Wright County Medical Society.....	143, 431, 562
		Somoform—Propaganda for Reform.....	516
		Soy Bean, The—Propaganda for Reform.....	515
		Specifics, Seize Substitute—Miscellany.....	555





71

